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A BROADER PERSPECTIVE ON "BASIC" WORD ORDER: DITRANSITIVES IN MIDDLE LOW GERMAN*

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Abstract The notion of "basic" word order, and in particular how to identify it, has been much discussed in the typological literature (e.g. Hawkins 1983, Dryer 1995, Croft 2003, Song 2010), but remains a contentious issue within and across syntactic theories. In this paper, we explore this tension via a case study of object order in ditransitive constructions in Middle Low German (c. 1200–1650). We show that the evidence on which previous claims of Accusative>Dative as the "basic" order have been made is in fact a product of crosslinguistically common mapping relations between case, thematic roles, animacy and definiteness, and as such should not be used as evidence for/against purely syntactic principles. We also show that standard typological criteria in fact point towards Dative>Accusative being more "basic". Overall, our findings showcase the opportunities which a modular approach to grammar such as Lexical Functional Grammar (e.g. Bresnan, Asudeh, Toivonen & Wechsler 2016) can offer on matters of word order.

1 Introduction

Middle field word order in Continental West Germanic (CWGmc, e.g. Dutch, High German, Low German) has attracted much attention in generative syntax in the past three decades, and in particular in the context of historical stages (e.g. Burridge 1993, Shannon 1997, 2003, Ribbert 2006, Hinterhölzl 2009, Speyer 2011, 2013, Petrova 2015, Speyer 2015, 2016, 2018, Rauth 2018, 2020, Weiss 2018, Struik 2022, Struik & Schoenmakers 2022). Yet despite the ex-

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tensive research, the precise factors conditioning word order in this domain and their status over time remain unclear and are often disputed. Moreover, the word order patterns and microvariation on display continue to challenge the various models of formal representation on offer within generative approaches to grammar (see e.g. discussion in Grewendorf & Sternefeld 1990, Choi 1999, Neeleman & van de Koot 2008, Abels 2015, Haider 2017, Struckmeier 2017).

In this paper, we investigate the relative order of nominal objects in the middle field in ditransitive constructions in Middle Low German (MLG, c. 1200–1650), building on previous work by Petrova (2015) and Rauth (2020). MLG offers a ripe opportunity to shed further light on middle field word order in the history CWGmc, for a number of reasons. Firstly, Low German is typologically and geographically situated between Dutch and High German, sharing features with both but also features which demonstrate its unique position within CWGmc, as recent studies on MLG have shown (e.g. Petrova 2012, 2013, Breitbarth 2014a,b, Mähl 2014, Wallmeier 2015, Farasyn 2018). Low German thus fills a typological gap in the CWGmc research and can reveal additional patterns of microvariation otherwise unattested in Dutch and High German. Secondly, while modern Low German written data is not easily available, MLG is extensively attested in prose texts ideal for syntactic research (Meier & Möhn 2000). Moreover, a number of these texts are now directly accessible for corpus-based syntactic studies via the MLG component of the Corpus of Historical Low German (CHLG, Booth, Breitbarth, Ecay & Farasyn 2020). Thirdly, there are also specific syntactic characteristics of the language which mean that MLG is an ideal testing ground for previous hypotheses concerning middle field word order. For instance, previous studies have shown that the verbal brace which gives rise to a structurally delimited middle field becomes increasingly solidified in the course of MLG (e.g. Rösler 1997, Mähl 2014, Dreessen & Ihden 2015); MLG thus offers a good case study by which to examine the diachronic roots of the word order variation exhibited in the modern CWGmc middle field.

Manual research by Petrova (2015) on object order in MLG ditransitive constructions has yielded some interesting – though largely inconclusive – results. Strikingly, none of the classic factors which condition middle field word order in modern CWGmc (e.g. givenness, definiteness, animacy, weight) were found individually to interact with object order in a consistent and straightforward way, indicating that the precise conditioning factors are altogether more complex. Nevertheless, the interactions between these factors and case-marking lead Petrova (2015) to claim that Acc(usative)>Dat(ive) order is the more "basic" word order, mirroring similar claims for Old and Middle High

German made by Speyer (2015, 2016). At the same time, in a recent extensive study of object order in both High and Low German from 750 to 1950 CE, Rauth (2020) has claimed that the reverse order, i.e. Dat(ive)>Acc(usative) order is "basic", due to it being more frequently attested in the periods which he examines. These conflicting claims reflect the tension which arises from different understandings of the notion of "basic" word order across diverse approaches to syntax.

In this paper, we explore this contentious issue, taking into account novel diachronic corpus data and diverse understandings of "basic" word order. We conduct a series of corpus investigations concerning ditransitives using the newly available CHLG and employing techniques from visual analytics to explore interactions in the data via the HistoBankVis tool (Schätzle, Hund, Dennig, Butt & Keim 2017), a visualisation system specifically developed for diachronic linguistic data. We show that the central evidence on which previous claims of Acc(usative)>Dat(ive) as the "basic" order have been made is in fact a product of crosslinguistically common mapping relations between case, thematic roles, animacy and definiteness. On this basis, we argue that such observations should not be used as evidence for/against purely syntactic principles. We also show that standard typological criteria in fact point towards Dat(ive)>Acc(usative) order being more "basic", casting further doubt on some previous claims. Finally, we argue that a modular approach to grammar, in particular the parallel architecture of Lexical Functional Grammar (LFG, Kaplan & Bresnan 1982, Bresnan et al. 2016, Dalrymple, Lowe & Mycock 2019) and its inherent separation of position and function, can neatly model the subtle observations borne out in the corpus data.

The paper proceeds as follows. In Section 2, we outline the relevant background concerning word order variation in the history of CWGmc, based on previous studies, as well as different understandings of the notion of "basic" word order across linguistics. Section 3 outlines the methodology for our study and introduces HistoBankVis (Schätzle et al. 2017) as a tool for diachronic research. In Section 4, we present our results for MLG object order with respect to diachronic and diatopic variation, as well as variation across syntactic environments, and discuss these in light of previous studies using different texts. In Section 5, we revisit previous claims concerning "basic" word order with respect to historical CWGmc in light of our data and in the context of a broader perspective on word order, and in Section 6 we explore how the empirical facts can be neatly modelled within Lexical Functional Grammar. Section 7 concludes the paper.

2 Background

As mentioned, previous diachronic work on object order in CWGmc ditransitives has sought to identify a "basic" word order amongst the variation on display (Petrova 2015, Speyer 2015, 2016, Rauth 2018, 2020). In this section, we outline the findings by Speyer (2015, 2016), Petrova (2015) and Rauth (2018, 2020) in detail and discuss the tricky notion of "basic" word order, and the different types of evidence that are used to claim one word order as more basic than another in contexts of variation.

2.1 "Basic" word order within transformational approaches to grammar

The precise understanding of the term "basic" word order differs across approaches to language. Within transformational syntax, for instance, it has a very specific understanding, referring to the "underlying" or "base-generated" order as stated in syntactic terms, i.e. in terms of grammatical functions. This order can be revealed by, among other things, binding facts, since a binding relation is understood as entailing that the binder is structurally higher than the bindee (cf. Binding Conditions, Chomsky 1981). This underlying syntactic order is assumed to be distinct from "surface" or "derived" orders, i.e. deviations from the underlying order which are taken to be triggered by general, crosslinguistically attested semantic-pragmatic ordering preferences, such as the preference to place given information before new information, animate entities before inanimate entities, and definite expressions before indefinite expressions. As such, besides binding evidence, syntactic orders which are observed to *not* coincide with these semantic-pragmatic ordering preferences can also be taken as indicative of a "basic" or "underlying" order. This transformational approach is essentially that adopted by Petrova (2015) and Speyer (2015, 2016) in their diachronic work on object order in ditransitives in CWGmc, as we discuss next.

2.2 Ditransitives in the history of Continental West Germanic

The relative order of objects in ditransitive constructions in the history of CWGmc has been examined in numerous studies (e.g. Speyer 2015, 2018, Rauth 2018, 2020 on High German; Weerman 1997, Geleyn 2017, van Engeland 2017 on Dutch; Petrova 2013, 2015, Rauth 2018, 2020 on Low German). In this paper, we are primarily concerned with work on older stages of High and Low German by Speyer (2015, 2016), Petrova (2015) and Rauth (2018, 2020), who deal explicitly with the issue of "basic" order.

2.2.1 *Speyer (2015, 2016)*

Speyer (2011, 2013, 2015, 2016, 2018) examines the order of objects in ditransitive constructions in historical stages of High German. Contra the classic diachronic trajectory from "more free" to "less free" ordering, Speyer (2011, 2013, 2016) presents data which shows that the order of objects in Old High German (OHG, c. 750–1050), the earliest attested stage of High German, is in fact relatively strict, with a strong preference for Dat(ive)> Acc(usative). Evidence for this includes the fact that translation texts feature a small number of examples where Latin Acc(usative)>Dat(ive) order is rendered as Dat(ive)> Acc(usative) in the OHG translation, e.g. (1), while the reverse adaptation (i.e. Latin Dat>Acc rendered as OHG Acc>Dat) is not exhibited (Speyer 2016: 145–146).[1]

(1) (a) *Der* [***allen*** ***ménniscon***] [***ézen***] *gibit*
who all.DAT humans.DAT food.ACC gives
'who gives all people food'
OHG (Notker Ps. 134 (505, 17), as cited in Speyer 2016: 146)

(b) *qui* *dat* [***escam***] [***omni*** ***carni***]
who gives food.ACC all.DAT flesh.DAT
'who gives food to all flesh'
Latin Original (as cited in Speyer 2016: 146)

Further evidence from OHG poetry (specifically Otrfid's *Evangelienbuch*) shows that Dat>Acc order is dominant in terms of frequency, making up approximately 70% of a (very small) sample of 17 examples (Speyer 2016: 146). An example is provided in (2).

(2) *bráht* *er* [***therera*** ***wórolti***] [***diuri*** ***árunti***]
brought he the.DAT world.DAT precious.ACC message.ACC
'he brought a precious message to the world'
OHG (Otfrid Evangelienbuch 1, 5, 4, as cited in Speyer 2016: 146)

Speyer (2016: 146–147) also finds that the five instances of Acc>Dat order in the text are involved in the rhyming pattern demanded by the metre, and all involve the verbal idiom *antwurti geben* ('give answer to someone'), as in (3). As such, he suggests that Acc>Dat orders are motivated by metrical and idiomatic factors.

1 At the same time, Speyer also finds examples where Latin Acc>Dat remains unchanged in the OHG translation (cf. Speyer 2011: 24).

(3) *Ér gab tho* [***ántwurti***] [***then líutin***] *mit giwúrti*
he gave then answer.ACC the.DAT people.DAT with gladness
'He gladly gave the people the [following] answer'
OHG (Otfrid Evangelienbuch 3, 20, 109, as cited in Speyer 2016: 147)

Nevertheless, despite these observations, Speyer (2015, 2016) argues that the "base" order of objects in ditransitive constructions is Acc>Dat in High German before 1500, even though Dat>Acc is by far the more frequently attested and, as mentioned, the order which occurs in translation texts deviating from the Latin source. The claim is made on the basis of the assumptions concerning word order within transformational grammar (see Section 2.1). Accordingly, Acc>Dat is claimed to be the "base" order due to (i) observations concerning the interaction of case and semantic-pragmatic properties and (ii) binding facts. On the first point, Speyer states that – while Dat>Acc examples can be identified as being derived by a specific factor (animacy) – no factor can be identified which derives Acc>Dat as neatly as animacy does Dat>Acc. On Speyer's view, because no factor can be identified which derives Acc>Dat, one is "forced to conclude that this is the base order", and that "the accusative should be higher in the tree than the dative" (Speyer 2016: 157).

On the second point, Speyer appeals to binding facts from modern Standard German where an accusative object can bind a reciprocal dative object, e.g. (4 a), but a dative object cannot bind a reciprocal, e.g. (4 b).

(4) (a) *...dass Jörg* [*die Gäste*]$_i$ *einander*$_i$ *vorstellt*
that Jörg the.ACC guests.ACC each-other introduces
'[I see] that Jörg introduces the guests to each other'

(b) **...dass Jörg* [*den Gästen*]$_i$ *einander*$_i$ *vorstellt*
that Jörg the.DAT guests.DAT each-other introduces
Intended: '[I see] that Jörg introduces the guests to each other'
modern Standard German (Speyer 2016: 161)

On the basis of Binding Principle A (Chomsky 1981) and the broader assumption that binding facts entail particular phrase-structural relations, Speyer (2016: 161) states that such examples are "clear evidence that the accusative is hierarchically higher than the dative", i.e. that the base order is Acc>Dat.[2] No binding data for the relevant historical stages is provided, however.

2 Claims that Acc>Dat order is basic in modern Standard German on the basis of binding evidence are well established in the literature (e.g. Grewendorf 1984, Müller 1999), although the validity of such evidence has been questioned on the basis of more recent experimental work (Featherston 2007).

Speyer (2016) compares his findings for OHG with data from Old Saxon (OS), the historical predecessor of Middle Low German, specifically in the *Heliand* epic poem, the main extant text for the language. As in the OHG poetry, he finds that Dat>Acc order dominates in the *Heliand* (63% of a small sample of 43 examples). However, crucially the OS data shows that, unlike in OHG, Acc>Dat order is attested with several verbs, beyond just *geban* 'give'. This leads Speyer to claim that there is "on the whole greater freedom in object order in the OS of the *Heliand* than in OHG" (Speyer 2016: 148).

2.2.2 *Petrova (2015)*

Petrova (2015) examines the order of objects specifically in the middle field in ditransitive constructions in the Middle Low German period, which exhibit variation as illustrated in (5).

(5) (a) *unde wunnen* [***den heiden***] [***dat ghebergh***]
and won the.DAT heathens.DAT the.ACC mountain.ACC
af
PTCL
'and won the mountain from the heathens'
(LChr I, 69 Petrova 2015: 356)

(b) *wente de turken hebbet* [***dat lant***] [***den greken***] *af ghewunnen*
because the Turks have the.ACC land.ACC the.DAT Greeks.DAT PTCL won
'because the Turks have won the land from the Greeks'
(LS 100, Petrova 2015: 356)

In order to investigate which factors determine the order of objects in constructions like (5), Petrova (2015) examines four narrative prose texts from across the MLG period. She limits the study to examples with two nominal objects in a clearly demarcated middle field, and where a possessive relation cannot be established between the two objects. This yields a relatively small dataset, with a total of 52 examples, see Table 1.

As Petrova (2015) points out, the data in Table 1 shows a continuous increase in the proportion of Dat>Acc order over time, while the proportion of Acc>Dat decreases; Acc>Dat order is not attested in the latest text (*Seelentrost*). On this basis, Petrova suggests that object order becomes fixed over the course of the MLG period, in line with the status in modern Low German, where indirect object > direct object (corresponding to earlier Dat>Acc) order is highly dominant and direct object > indirect object (≈Acc>Dat) order

text and time of composition	Dat>Acc	Acc>Dat	total
Sächsische Weltchronik (13th century)	7	6	13
Ludolf von Sudheims Reise (13th century)	4	3	7
Lübeckische Chronik I (14th century)	11	4	15
Seelentrost (15th century)	17	–	17
total	39	13	52

Table 1 Middle Low German Dataset of Petrova (2015: 362)

is limited to ambiguous contexts involving two human objects (Rauth 2020: 216). Nevertheless, Petrova (2015) acknowledges the limitations of her small sample size and suggests that this diachronic hypothesis should be tested against more data. This has been tested in the recent study by Rauth (2020) (see Section 2.2.3) and we also test the claim further in Section 4 below, using novel data from the CHLG.

Petrova (2015) also tests for the influence of a number of factors which have been shown to be relevant for object order in other Germanic varieties, including givenness, definiteness, animacy and weight. Strikingly, she finds that none of these factors constrain object order in a consistent and decisive way, in line with the findings for Old Saxon by Speyer (2016). Also similar to Speyer (2015, 2016), Petrova (2015) assumes a transformational approach to syntax and thus adopts a similar line of reasoning to support her claim that Acc>Dat order is "basic" in Middle Low German ditransitives, focusing on non-syntactic "triggers" (cf. discussion in Section 2.1). Specifically, she observes that certain orderings in terms of semantics/pragmatics/prosody which are well known to be preferred crosslinguistically (given>new, definite>indefinite, animate>inanimate, light>heavy) coincide with a frequency of Dat>Acc order which is higher than with orders which are not in line with these semantic/pragmatic preferences; there is no such effect for Acc>Dat order. We show Petrova's data with respect to givenness as an example, provided here in Table 2; similar data is presented in relation to definiteness, animacy and weight in Petrova (2015).

The fact that object order of "increasing information status" (i.e. given> new) coincides with a higher share of Dat>Acc order (35.9%) compared to contexts where the information status of the objects is constant (28.2%) or cannot be identified (30.8%), alongside the fact that there is no such effect for Acc>Dat order, leads Petrova (2015: 379) to claim that Acc>Dat order is "ba-

information status	Dat>Acc	Acc>Dat	total
increasing	14 (35.9%)	3 (23.1%)	17 (32.7%)
decreasing	2 (5.1%)	4 (30.8%)	6 (11.5%)
constant	11 (28.2%)	3 (23.1%)	14 (26.9%)
non-referring expressions	12 (30.8%)	3 (23.1%)	15 (28.8%)

Table 2 Object order and information status in MLG (Petrova 2015: 365)

sic" and Dat>Acc is "derived". In other words, like Speyer, Petrova's conclusion that Acc>Dat is the "basic" order is based on the fact that Acc>Dat coincides to a lesser degree with crosslinguistic non-syntactic ordering preferences (given>new, definite>indefinite, light>heavy, animate>inanimate) than Dat>Acc order, and thus cannot be considered as being "triggered" by non-syntactic factors.

2.2.3 Rauth (2018, 2020)

More recent studies by Rauth (2018, 2020) – which examine the order of nominals objects in ditransitives in the history of High and Low German dialectal varieties – present a different picture with respect to the question of "basic" order. Overall, Rauth (2020) observes that indirect object > direct object (≈Dat>Acc) is the more frequently attested order in the periods which he examines (1050–1350, 1350–1650 and 1650–1950), leading him to label it as the "basic order" (*Grundabfolge*). In addition, he observes that familiarity (i.e. givenness) and salience (i.e. distance from last mention) are stable factors across the diachrony of both High and Low German which interact with object order; specifically, if a direct object (≈accusative-marked object) is more familiar or more salient than the indirect object (≈dative-marked object), then it is likely to occur before the indirect object.

For the earliest period (750–1050), Rauth (2020: 301) looks at the *Heliand* as the main extant text for Old Saxon, and finds that 56.8% of the total 44 examples occur with indirect object > direct object (i.e. Dat>Acc) order. However, when these examples are manually examined to exclude instances which show ordering influence from Latin or metrical requirements, only 19 remain, of which 47.4% exhibit indirect object > direct object (i.e. Dat>Acc) order.[3]

3 See also Rauth (2018) for a dedicated study on object order in Old Saxon and Old High German.

With respect to MLG, Rauth (2020) divides the period into two subperiods, 1050–1350 and 1350–1650. His sources for the early period are the *Sachsenspiegel* and the *Sächsiche Weltchronik*, the latter of which was also examined in the earlier study of Petrova (2015), cf. Table 1. With both of these texts combined, the proportion of indirect object > direct object (i.e. Dat>Acc) order is 66.5% (107/161) (Rauth 2020: 277), which is comparably low compared to the Middle High German texts he examines for the period, which exhibit indirect object > direct object (i.e. Dat>Acc) order in 84.9% of cases (185/218) (Rauth 2020: 277). For the next period, 1350–1650, Rauth (2020) examines rural court regulations or *Weistumer*, and as such there is no overlap here with the texts examined by Petrova (2015). Rauth finds that, in the texts which exhibit a relatively uniform case system (*Einheitskasus*) – i.e. the Low German dialects apart from Eastphalian and southern Westphalian – indirect object > direct object (≈Dat>Acc) order is exhibited in 85.8% of instances (200/233) (Rauth 2020: 249). By the latest period (1650–1950), this preference has become even stronger in these Low German dialects, where indirect object > direct object (≈Dat>Acc) order is now observed in 97.7% of cases (209/214) (Rauth 2020: 214).

In sum, the picture for the history of Low German which emerges from the extensive study in Rauth (2020) is one in which indirect object > direct object (≈Dat>Acc) order gets progressively more frequent over time, which Rauth attributes, at least as of 1650, to the ongoing erosion of case morphology.

2.2.4 Summary

In sum, results from previous studies on object order in the history of German varieties broadly concur in indicating that Dat>Acc order is overall the most frequent order, though the various authors make conflicting claims with respect to the issue of "basic" word order. Speyer (2015, 2016) observes that Dat>Acc order is the more frequent in High German before 1500, but argues that Acc>Dat is the "base" order of objects on the basis of binding facts and the fact that Acc>Dat order does *not* coincide with crosslinguistic semantic-pragmatic ordering preferences. Similarly, Petrova (2015) claims that Acc>Dat order is "basic" in MLG, again on the basis that it is the order which does *not* coincide with crosslinguistic non-syntactic ordering preferences. This line of argumentation is firmly in line with the specific view of word order within transformational approaches to grammar (see Section 2.1), where the focus is on identifying an "underlying" syntactic order, as revealed by binding facts and the absence of pragmatic triggers. We address Speyer and Petrova's argumentation concerning semantic-pragmatic triggers further in Section 5.1.

Rauth, meanwhile, examining High and Low German from 750–1950,

claims that indirect object > direct object (≈Dat>Acc) order is "basic", given that it is more frequently attested in the periods in which he examines, and becomes more frequent across the dialects over time. As such, for Rauth it is frequency which appears to be the deciding factor for the question of choosing one word order as more basic over another. This particular criterion is in line with typological approaches to basic word order, as we discuss in Section 2.3.

Given the conflicting claims, the order of objects in Middle Low German ditransitives merits re-examining, especially in light of the availability of the syntactically annotated CHLG data. In this paper, we examine fresh MLG data from the CHLG, from texts which were not considered in the studies of Petrova (2015) and Rauth (2020), taking a broader view of the types of evidence which can be used to identify one word order as more basic than another. We briefly outline this broader view next and elaborate further in Section 5.

2.3 Alternative approaches to "basic" word order

The notion of "basic" word order has been heavily discussed within typological work, where three methods for the identification of "basic" word order are generally cited, in relation to: (i) frequency (e.g. Hawkins 1983, Croft 2003: 43–45, Song 2010, Dryer 2013), (ii) pragmatic neutrality (e.g. Mallinson & Blake 1981, Siewierska 1988: 8, Croft 2003: 43, Payne 2013, Fuß 2018, Höhle 2018) and (iii) morphological markedness (e.g. Hawkins 1983: 13, Whaley 1996: 102–104, Song 2010). At the same time, many authors acknowledge that, if combined, these measures often yield conflicting results and do not necessarily point to the same word order as "basic" (e.g. Langacker 1977: 24, Hawkins 1983: 14, Siewierska 1988, Croft 2003: 43–45, Song 2010, Dryer 2013, Payne 2013).

A somewhat broader issue concerns in what terms "basic" word order is stated. Traditionally, since at least Greenberg's typological work on word order generalisations (e.g. Greenberg 1963), word order is cast syntactically in terms of the order of subject, object(s) and verb. However, there are many languages where no "basic" word order can be identified in terms of grammatical functions, and where word order modelling in terms of cognitive/pragmatic principles is more appropriate (e.g. Li & Thompson 1976, Thompson 1978, Brody 1984, Hale 1992, Mithun 1992, Payne 1992, Kiss 1995, Song 2010, Paul & Whitman 2017). As such, when approaching the issue of "basic" word order for a particular language/language stage, one should at least remain open to the possibility that no "basic" order in specifically *syntactic* terms (i.e. in terms of grammatical functions such as subject and object) can

be conclusively identified. One theoretical approach which allows for such a possibility is that taken within Lexical Functional Grammar (LFG, Kaplan & Bresnan 1982, Bresnan et al. 2016, Dalrymple et al. 2019), as we discuss in Section 6.

2.4 How to describe double object constructions

There are various ways in which different linguistic traditions and authors refer to the two objects involved in ditransitive constructions. Speyer (2015, 2016) and Petrova (2015) describe the two objects in terms of their case-marking which, in the stages of High and Low German which they examine, are prototypically marked for dative (=Recipient/Beneficiary) and accusative (= Theme). However, as we show in Section 3, the correspondences between ditransitive objects and case-marking are complex in MLG and – due to ongoing case erosion throughout the period – involve a good deal of case syncretism. For this reason, we do not think that case is an appropriate way to describe the ordering of objects in our paper.

Rauth (2020), meanwhile, adopts a different way of describing his data, distinguishing between the two objects in terms of the "indirect object" (=Recipient/Beneficiary) versus "direct object" (=Theme), in line with a traditional grammarian approach. This circumvents the complex issue of how a changing morphological case system maps to arguments, however, we do not think that the indirect versus direct object distinction is necessarily better, since this has a semantic rather than a syntactic basis (cf. discussion in Dalrymple et al. 2019: 26–27). LFG instead follows a typological tradition (e.g. Dryer 1986) in distinguishing between "primary" and "secondary" objects in ditransitive constructions with double objects, which crosscuts the direct/indirect object distinction, as we outline in Section 6. Nevertheless, as we discuss there, the issue of what qualifies as a primary or secondary object in this context is not trivial, and varies crosslinguistically (and potentially diachronically), so we do not view this theoretical terminology as an appropriate approach to describing our data; we deal with the theoretical analysis in a separate step in Section 6.

Given the issues involved in describing objects in MLG ditransitive constructions in terms of case-marking, "indirect/direct" objects and "primary/secondary" objects, we choose instead to describe the ordering of objects in our data in terms of thematic roles. This is line with much of the typological literature (e.g. Malchukov, Haspelmath & Comrie 2011, Haspelmath 2015), and allows us to describe all relevant ditransitive data in the CHLG in a consistent way which is compatible with diverse theoretical approaches to syntax. In this context, we adopt the version of the Thematic Hierarchy given in

Bresnan et al. (2016: 329), cf. (6), where Beneficiary represents an umbrella term which comprises (true) Beneficiaries, Maleficiaries and what others may rather call Recipients.

(6) **Thematic Hierarchy**
Agent > Beneficiary > Experiencer/Goal > Instrument > Patient/Theme > Locative

Given that our main focus in this paper is on the issue of what constitutes "basic" word order, we leave further examination of potential nuances in the data with respect to different types of ditransitive predicates, and subtle differences in thematic role, for future research.

3 Methodology

3.1 The Corpus of Historical Low German

Middle Low German (MLG) is a cover term for several CWGmc scribal dialects (*Schreibsprachen*) which were in use across northern Germany and the north-eastern Netherlands in c. 1200–1650. The language stage is standardly periodised into three sub-periods: (i) "early" MLG, 1200–1370, (ii) "Classical" MLG, 1370–1520/1530 and (iii) "late" MLG, 1520/1530–1630/1650 (Peters 2000: 1420). The main scribal dialects which will be relevant for this paper are Westphalian (WP), Eastphalian (EP), North Low Saxon (NLS) and Eastelbian (EE). WP and EP are separated by the river Weser, cf. the map in Figure 1, where WP is labelled as the German *W(est)FÄL(isch)* and EP as *O(st)FÄL(isch)*. Dortmund, Soest, Münster, Osnabrück, Lemgo, Herford and Paderborn represent key regional centres of WP, and Hannover, Hildesheim, Braunschweig, Goslar and Göttingen key centres of EP (Peters 2000: 1413–1414). The scribal dialect to the north of these dialects and to the east of the Elbe is generally labelled North Low Saxon, with Oldenburg, Bremen, Stade, Hamburg and Lüneburg as important centres, cf. *n(ord)n(ieder)sächs(isch)* in Figure 1. Eastelbian spans the north of the region to the east of the river Elbe, with key centres being Lübeck and further cities along the Baltic coast, such as Rostock and Stralsund (Peters 2000: 1414), cf. the label *o(st)elb(isch)* in Figure 1.[4]

The syntax of MLG remains relatively understudied, despite its rich attestation which offers a ripe opportunity for syntactic studies: large numbers of prose texts are preserved from the period and span a range of genres, from

4 For the purposes of this paper we class the scribal dialect used in Lübeck, which features dialect-levelling, under Eastelbian (cf. Peters 2000: 1414).

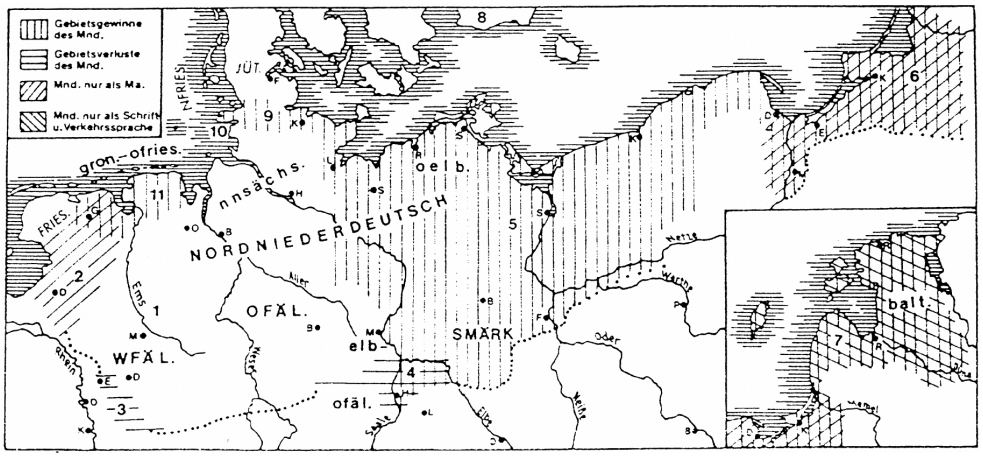


Figure 1 Map showing the extent of the MLG-speaking area, taken from Peters (2000: 1420). The four scribal dialects relevant to this paper are labelled *WFÄL* (=WP), *OFÄL* (=EP), *nnsächs.* (=NLS) and *oelb.* (=EE). Other labels mark subdivisions which are not directly relevant to the present paper (cf. Peters 2000: 1419–1420 for further explanation.)

chronicles and city rights, to charters, private letters, religious and scientific texts (Meier & Möhn 2000). Situated on the CWGmc dialect continuum, with the Dutch dialect area to the west and Central and High German dialects to the south, MLG shares features with both of these groups. At the same time, a number of recent studies have shown that the language exhibits syntactic characteristics which signal its unique position within CWGmc with respect to e.g. the verbal complex (Mähl 2014), verb-second and the left periphery (Petrova 2012, 2013), negation (Breitbarth 2013, 2014a,b), adverbial clauses (Wallmeier 2015) and unexpressed subjects (Farasyn & Breitbarth 2016, Farasyn 2018).

There are two recently released resources which provide valuable new opportunities for syntactic studies of MLG: (i) the Referenzkorpus Mittelniederdeutsch/Niederrheinisch (1200–1650) (ReN-Team 2021) and (ii) the MLG component of the Corpus of Historical Low German (Booth et al. 2020). The latest version (1.1) of the Referenzkorpus Mittelniederdeutsch/ Niederrheinisch (1200–1650) (ReN) contains approximately 2.3 million words spanning 235 texts, of which c. 1.5 million words are annotated. Each text is pre-

sented in a diplomatic transcription, and is lemmatised, POS-tagged and annotated for morphological information; for more details on the design of the ReN, see Barteld, Dreessen, Ihden & Schröder (2017).

The ReN – with its relatively large scope, as well as its POS-tags and rich morphological information – is a valuable resource for certain types of syntactic investigation, particularly as its specially designed tagset, the Historisches Niederdeutsch-Tagset ('HiNTS', Barteld, Ihden, Dreessen & Schröder 2018) already encodes some information regarding word order. However, for certain types of syntactic investigation, where e.g. hierarchical structural relations and word order properties beyond adjacency are relevant, additional syntactic annotations are necessary, as shown by the recent case studies in Booth, Breitbarth & Farasyn (Forthcoming). This is provided by the MLG component of the Corpus of Historical Low German ('CHLG'), which has been developed in collaboration with the ReN, adding an additional layer of syntactic annotation to a small proportion (approximately 200,000 words) of the ReN texts, on top of the inherited POS-tags and morphological annotations. Note that none of the CHLG texts were examined in the studies by Petrova (2015) or Rauth (2020); see Booth et al. (2020) for details of the texts included in the CHLG. The syntactic annotation is constituency-based and follows the Penn standard for historical English (Santorini 2010), in line with other historical corpora for related varieties, e.g. Old Saxon (Walkden 2015) and Early New High German (Light 2011).

3.2 Data collection

The data from the CHLG for this paper was extracted using the CorpusSearch query language (Randall 2005). The three (nominal) arguments of ditransitive constructions in the CHLG are annotated in the vast majority of instances on the basis of their case-marking and thematic role, i.e. the nominative Agent is annotated as subject (`NP-SBJ`), the accusative Theme is annotated as first object (`NP-OB1`) and the dative Beneficiary as second object (`NP-OB2`).[5] Nevertheless, MLG exhibits many-to-one correspondences in terms of the mapping between case-marking and arguments, as well as some case syncretism between accusative and dative, especially in later texts, so not all `NP-OB1`s are necessarily explicitly accusative-marked, nor are all `NP-OB2`s necessarily explicitly dative-marked. For instance, in rare cases the Theme argument (`NP-OB1`) has genitive rather than accusative marking, e.g. (7 a), and ditransitive constructions where case-marking on one or both of the objects is syn-

5 Note that the use of the labels `NP-OB1` and `NP-OB2` is merely an annotation choice and is not designed to reflect a particular theoretical analysis; we deal with the issue of what qualifies as a primary/secondary object from a theoretical point of view in Section 6.

cretic are also common, e.g. (7b). In such instances, NP-OB1 (Theme) and NP-OB2 (Beneficiary) are annotated on the basis of thematic role.

(7) (a) *...Dat se* [***blankflosse***] [***des liues***] *vorgunden*
COMP they.NOM Blankflos.DAT DEF.GEN life.GEN allowed
'...that they spared Blankflos her life' (CHLG: FLOS.EE.LIT.84)

(b) *...vnde so schal he geuen* [***symon obgnant***]
and so shall he.NOM give Simon aforementioned
ock [***xl mark***]
also 40 marks
'...and so he shall also give the aforementioned Simon forty marks' (CHLG: SCHWERIN.EE.ADMIN.308)

We collected all matrix and embedded clauses annotated with an overt NP-SBJ, NP-OB1 and NP-OB2 in the CHLG. This represents a broad category of ditransitive constructions (for an inventory of different types see Rauth 2020), and we leave an investigation of the individual behaviour of these subtypes for future work. Note also that constructions with ditransitive verbs where one argument is realised as a prepositional phrase are excluded; we also leave such data for future research. We excluded embedded clauses which are relative clauses to avoid objects which are inserted as traces from being included in the dataset. In order to make the dataset comparable to those used by Petrova (2015) and Rauth (2020), we follow their decision to only include examples where both objects are full lexical noun phrases, i.e. not pronominal.

The preliminary dataset reveals that there are three broad patterns for ditransitive constructions in MLG, in terms of which topological field(s) the objects occur in. Here there are three main possibilities: (i) both objects in the middle field, e.g. (8a); (ii) both objects in the final field, e.g. (8b); (iii) one object in the middle field; one object in the final field, e.g. (8c) ("split").

(8) (a) Middle Field: LB $\mathbf{OBJ_i}$ $\mathbf{OBJ_j}$ RB[6]

De scal [***dem leser***] [***drinken***] *gheuen*
DEM.NOM shall DEF.DAT reader drink.ACC give
'He shall give the reader a drink' (CHLG: FLOS.EE.LIT.810)

6 LB = left bracket; RB = right bracket

(b) Final Field: LB RB **OBJ$_i$ OBJ$_j$**

vnde *so* *schal* *arnt* *obgnant* *geuen*
and so shall Arnt.NOM aforementioned.NOM give
[***hansze***] [***xl*** ***mark***]
Hans.DAT 40 marks.ACC
'and so shall the aforementioned Arnt give Hans 40 marks'
(CHLG: SCHWERIN.EE.ADMIN.307)

(c) Split: LB **OBJ$_i$** RB **OBJ$_j$**

dey *sal* [***dem*** ***Rayde***] *wedden* [***sestich***
DEM.NOM shall DEF.DAT council.DEM pay sixty
schilinge]
shillings.ACC
'He shall pay the council sixty shillings'
(CHLG: SOEST.WP.LAW.137)

Additionally, there are examples where two objects occur in a matrix clause with a single lexical finite verb (left bracket) but no right bracket, i.e. where the middle field and final field are not strictly delimited, e.g (9). We will refer to this environment as the "open" type.

(9) Open: LB **OBJ$_i$ OBJ$_j$**

Dar *vmme* *gaf* *he* [***de*** ***dochter***] [***eyme***
there PTCL gave he.NOM DEF.ACC daughter.ACC INDEF.DAT
armen ***slichten*** ***manne***]
poor simple man.DAT
'Therefore he gave the daughter to a poor simple man'
(CHLG: ENGELHUS.EP.HIST.917)

All examples of the types in (8) and (9) were isolated and manually examined to exclude misannotations and erroneous examples. This yielded the preliminary dataset in Table 3. Note that we have a total of 265 examples and thus considerably more data than the 52 examples surveyed in the (manual) study by Petrova (2015) (cf. Table 1) but fewer examples compared to the MLG data examined by Rauth (2020), though the CHLG examples represent a broader range of text types, including law, science, religion, literature and private correspondence. All examples in the dataset in Table 3 were tagged for the order of objects with respect to thematic role (Theme>Beneficiary, Beneficiary>Theme), animacy (animate>inanimate, inanimate>animate, animate>

animate, inanimate>inanimate), definiteness (definite>indefinite, indefinite>definite, definite>definite, indefinite>indefinite) and prosodic weight in terms of number of words (lighter>heavier, heavier>lighter, same).[7] As outlined in Section 2.4, we assume the Thematic Hierarchy in Bresnan et al. (2016: 329) (cf. (6)), where Beneficiary is an umbrella term for (true) Beneficiaries, Maleficiaries and Recipients. With respect to animacy, we distinguish between animate (i.e. human/animal) referents and inanimate (i.e. non-human/non-animal) referents; the animate category includes referents which can be considered animate in an abstract sense, e.g. gods, souls and collectivities of humans with some group identity and collective purpose. In cases where an animate referent is coordinated with an inanimate referent, we label the whole referent as inanimate. With respect to definiteness, we distinguish between definite expressions (personal names, expressions with an overt demonstrative/definite marker, expressions modified by a possessor) and indefinite expressions (all other expressions).

clause type	open	middle field	final field	split	total
matrix	105	41	43	35	224
embedded	n/a[8]	23	18	0	41
total	105	64	61	35	265

Table 3 Ditransitive constructions in CHLG across four environments

The data for this paper spans 1279–1580, with the bulk of the data in what is standardly considered to be the "Classical" MLG period, i.e. 1370–1520/1530 (Peters 2000: 1420). As such, for the diachronic assessment of the data we adopt an alternative periodisation which consists of three periods of roughly equal length, the last two of which overlap with much of the traditional "Classical" period: 1279–1350; 1351–1450; 1451–1580. Three of the CHLG texts, *Braunschweiger Urkunden* (1301–1500), *Stralsunder Urkunden* (1301–1500) and *Oldenburger Urkunden* (1350–1500) consist of dated entries which span multiple centuries and as such do not neatly fit into our chosen periodisation. When looking specifically at diachrony, we exclude these three texts. For the remaining 17 texts, the ditransitive examples distribute over the three periods as in Table 4.

7 One relevant factor which we do not address here is givenness, for practical reasons. A second version of the CHLG in which all NP arguments will be annotated for givenness is currently under development, and so rather than conduct our own annotation of the data for givenness here, it is sensible to wait for the official givenness annotation to be made available.

8 There are no examples of embedded clauses which are of the open type, as subordinate clauses always have a left bracket (C element) and right bracket (finite verb).

period	*n*
1279–1350	32
1351–1450	103
1451–1580	56

Table 4 Ditransitive constructions in CHLG across three periods

3.3 HistoBankVis

For the exploration of interactions in our data, we use HistoBankVis (Schätzle et al. 2017), a multilayer visualisation system specifically developed for the analysis of complex diachronic linguistic data. In particular, we make use of the Dimension Interaction visualisation component, which is based on the Parallel Sets technique (Bendix, Kosara & Hauser 2005, Kosara, Bendix & Hauser 2006). The Parallel Sets technique facilitates the visual representation and exploration of correlations between a large number of features from different data dimensions, and in particular can uncover interdependencies in data which would otherwise remain unknown (see Schätzle, Dennig, Blumenschein, Keim & Butt 2019 for examples and more discussion).

A Parallel Sets plot consists of at least two data dimensions, i.e. features, within which there are at least two categories. The categories in the two dimensions are connected by coloured ribbons, and the size of a ribbon represents the share which a category holds of a category from another dimension from left to right. An example from Schätzle et al. (2019) showing the interaction between two data dimensions in historical Icelandic is shown in Figure 2. The first dimension is voice (active/middle/passive) and the second dimension is word order (VSO1/SVO1/O1VS). From the Parallel Sets plot, one can easily see from the relative size of the ribbons that active constructions occur most often with VSO1, while middle constructions are most frequently SVO1. In the Parallel Sets component of HistoBankVis, the data dimensions – as well as the categories within them – can be reordered via drag&drop, allowing for an interactive exploration of potential interactions.

4 Variation and change in object order

As expected of any language stage, past or present, Middle Low German is known to exhibit both diachronic and diatopic morphosyntactic variation, as is reflected in the textual attestation (e.g. Lasch 1914, Peters 1973, Breitbarth

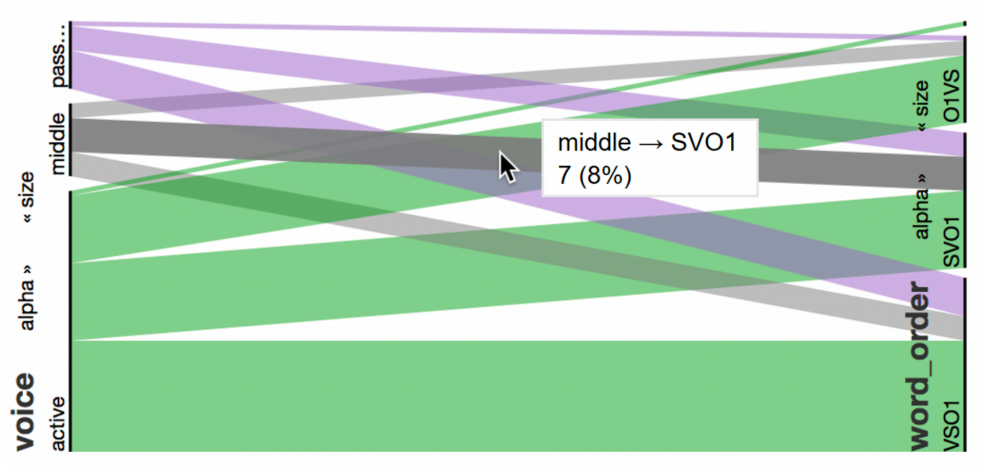


Figure 2 Dimension interaction for voice and word order in dative subject sentences in Icelandic from 1750–1899 (Schätzle et al. 2019: 275)

2014a,b, Peters 2017, Walkden & Breitbarth 2019). As the studies by Petrova (2015) and Rauth (2020) confirmed, this variation manifests itself in the variable object order in MLG ditransitives. In this section, we explore this variation further and test previous findings against novel data from the CHLG, which was not available to Petrova (2015) or Rauth (2020). In addition, we employ the visualisation system outlined in Section 3.3 as an effective way to explore and present interactions in the data. These findings will serve as a backdrop to the main claim of the paper concerning the status of basic word order in MLG ditransitives, which follows in Section 5.

4.1 Diachrony

As already discussed in Section 2, the findings from Petrova (2015) indicated some (rather sparse) evidence that Dat>Acc (i.e. Beneficiary>Theme) order becomes increasingly preferred over time throughout the MLG period, cf. Table 1 above. The more extensive study in Rauth (2020: 249, 277) appears to confirm this trajectory of change: for his early MLG texts (*Sachsenspiegel, Sächsische Weltchronik*, 1050–1350), indirect object > direct object (Beneficiary>Theme) order is attested in 66.5% (107/161) of cases. By his later

MLG texts (1350-1650), this has risen to 85.8% (200/233).[9]

The tentative diachronic claim in Petrova (2015) was made largely on the basis that, in the latest text she examined – the only one from the 15th century (*Seelentrost*) – Acc>Dat (i.e. Theme>Beneficiary) order was unattested, see Table 1 above. However, the CHLG dataset includes 23 examples of Theme>Beneficiary order which occur in texts from the 15th or 16th centuries. Such examples are found in all four environments, i.e. in the open, middle field, final field and split types, e.g. (10). A summary of the distribution of these late Theme>Beneficiary examples across the four environments is provided in Table 5.

(10) (a) Open

Also deden se em vnde brochten [***dat***
so did they.NOM he.DAT and brought DEF.ACC
herte] [***Tancredo***].
heart.ACC Tancredus.DAT
'So they did to him and they brought the heart to Tancredus.'
(CHLG: 1502, GRISELDIS.NLG.LIT.471–472)

(b) Middle Field

Jtem js t auer eyn kynt vnde suget so sal
and is it though a.NOM child.NOM and sickens so shall
men [***alle de artzedye***] [***der ammen***]
one.NOM all.ACC DEF.ACC medicine.ACC DEF.DAT midwife.DAT
geuen.
give
'And yet if there is a child and he/she sickens then one should give all the medicine to the midwife.'
(CHLG: 1451–1500, ARZNEI.WP.SCI.266)

(c) Final Field

…dat Hans kannengheter hefft gesettet [***syn hus***
COMP Hans Kannengheter has given his.ACC house.ACC
myt syner tobehoringe hinrick Tymmen vnde alle
with its.DAT members.DAT Hinrick Tymmen and all

9 For the period 1350–1650, Rauth (2020) carves up his dialects as per the status of their case system. 85.8% is the proportion of indirect object > direct object for those LG dialects which exhibit an (almost) uniform case system, which equates to the LG dialects except Eastphalian and Southernmost Westphalian; Eastphalian is included in the figures for the two-case system Nom/Acc-Dat (which also includes various High and Central German dialects), where indirect object > direct object is exhibited in 66.5% (107/161) of cases.

de ***Seuerine***] *to* *bewaringe* *vor* *dat* *loffte* *dat*
the Severins to keep for DEF.ACC promise.ACC REL
se *vor* *em* *gelauet* *hebben* [***den***
they.NOM before he.DAT promised has DEF.DAT
Knakenhouweren] *vor* *x* *lubesche* *mark*
butchers.DAT for ten lubish marks
'…that Hans Kannengheter has given his house with its members Hinrick Tymmen and all the Severins to the butchers for ten lubish marks in order to keep the promise that they have made before him' (1451–1500, SCHWERIN.EE.ADMIN.57)

(d) Split

So *schal* *se* [***de*** ***dre*** ***mark***] *alle* *Jar*
so shall she.NOM DEF.ACC three mark all.ACC year.ACC
vppe *de* *sulue* *tijd* *vortgheuen* [***her*** ***herman*** ***heynen***
up DEF.ACC same time pass-on Sir Herman Heynen
edder ***der*** ***vicarien*** ***de*** ***he*** ***nu*** ***hefft***
or DEF.GEN vicarage.GEN REL he.NOM now has
hebbere ***vnde*** ***besittere***] *an* *tokomenen* *tijden*
havers.ACC and owners.ACC on future.DAT times.DAT
'So she shall pass on ever year at the same time the three marks to Sir Herman Heynen or to the owners of the vicarage which he now has in future times'
(CHLG: 1451–1500, SCHWERIN.EE.ADMIN.79)

open	middle field	final field	split	total
10	4	8	1	23

Table 5 Ditransitive constructions with Theme>Beneficiary order in CHLG across four environments (1400–1580)

Given that Theme>Beneficiary order is robustly attested from 1400 onwards in the CHLG data, with examples as late as 1502 (cf. (10 a) above), it is clear that Theme>Beneficiary order is attested right up until the very late MLG period. A broader look at the whole dataset, periodised as described in Section 3, confirms this further, revealing that the percentage of Theme>Ben(eficiary) order in the latest period (1451–1580) is actually higher than in the other two periods, see Table 6. This adds nuance to the overall diachronic trend borne out by the findings in both Petrova (2015) and Rauth (2020), which suggested a continuous diachronic trend towards Dat>Acc

(i.e. Beneficiary>Theme) order throughout the MLG period; in fact as the CHLG data show, the picture is more complex, with likely regional and genre factors relevant concerns. Crucially, in MLG Theme>Beneficiary order is robustly attested throughout the period (though dispreferred), from very early texts as in (11) below, to late texts as in (10) above.

period	Theme>Ben	Ben>Theme	total	%Theme>Ben
1279–1350	7	25	32	21.9%
1351–1450	14	89	103	13.6%
1451–1580	17	39	56	**30.3%**

Table 6 Object order in ditransitive constructions in CHLG across three time periods

(11) (a) *de* *solde* [***sinen*** ***broke***] [***der*** ***stat***] *betheren*
DEM.NOM should his.ACC fine.ACC DEF.DAT city pay
'that person should pay his fine to the town'
(CHLG: 1300, RUETHEN.WP.LAW.106)

(b) *de* *solde* *weden* [***vif*** ***mark***] [***vnsme*** ***heren*** ***van*** ***colne***]
DEM.NOM should pay five marks our.DAT lord.DAT of Cologne
'that person should pay five marks to our lord of Cologne'
(CHLG: 1300, RUETHEN.WP.LAW.108)

4.2 Diatopy

We now examine how the four scribal dialects are represented in the CHLG data: North Low Saxon (NLS), Westphalian (WP), Eastphalian (EP) and Eastelbian (EE), see Figure 1 above. In fact, the four dialects overall show a similar picture; Ben(eficiary)>Theme order is preferred in all dialects, cf. Table 7 and the Parallel Sets plot in Figure 3. The Eastelbian data (green ribbon) show a lower frequency of Theme>Beneficiary order, i.e. a stronger preference for Beneficiary>Theme order than the other three dialects (North Low Saxon, red; Westphalian, purple; Eastphalian, grey), see again Table 7. According to the χ^2 test, this difference is statistically significant between Eastalbian and both North Low Saxon ($p < 0.0001$) and Eastphalian ($p < 0.0001$), but not between Eastalbian and Westphalian ($p > 0.1$).

The Eastelbian dialect is in fact sociolinguistically set apart from the three other dialects as representing the MLG *Neuland*, i.e. the formerly Slavic-speaking

dialect	Theme>Ben	Ben>Theme	total	%Theme>Ben
North Low Saxon	7	31	38	18.4%
Westphalian	17	66	83	20.5%
Eastphalian	8	39	47	17.0%
Eastelbian	13	84	97	**13.4%**

Table 7 Object order in ditransitive constructions in CHLG across four scribal dialects

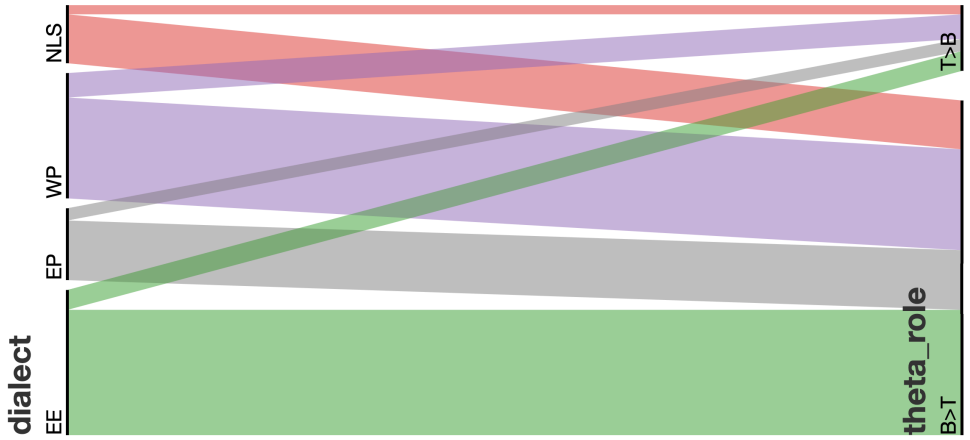


Figure 3 Interaction between scribal dialect (left-hand dimension, top to bottom: North Low Saxon (NLS), Westphalian (WP); Eastphalian (EP); EastElbian (EE)) and object order (right-hand dimension, top to bottom: T(heme)>B(eneficiary); B(eneficiary)>T(heme) in ditransitive constructions in CHLG

area east of the river Elbe which was colonised during the twelfth and thirteenth centuries by Low German speakers with the rise of the Hanseatic League (cf. Peters 2000: 1409–1410, Breitbarth 2014a: 11–14, Walkden & Breitbarth 2019: 191). In this respect, Eastelbian differs from the *Altland* scribal dialects, i.e. North Low Saxon, Westphalian, Eastphalian, which span the area west of the river Elbe, where Old Saxon is presumed to have been spoken. The founding of cities in this area along the Baltic coast, including Lübeck, is also relevant, since such cities became the new centres of Hanseatic activity, and thus the local scribal dialect came to be highly influential (Breitbarth 2014a:

11–14). Interestingly in the context of our study, Eastelbian texts have been shown to be particularly innovative with respect to morphosyntactic change compared to the more conservative *Altland* dialects (see e.g. Breitbarth 2014a: 11–14 on the expression of negation). This difference has been attributed to the emergence of a regional quasi-standard variety in the Eastelbian cities of Lübeck and Stralsund and attendant leveling of local dialect features, compared to the relative stability of the *Altland*, where smaller, more localised (sub-)regional standards emerged (e.g. Peters 1998: 117–118).

Given previous findings that *Neuland* texts are comparatively innovative and *Altland* texts conservative with respect to morphosyntactic change (e.g. Breitbarth 2014a: 11–14), one can tentatively interpret the stronger preference for Beneficiary>Theme order in the Eastelbian texts (*Neuland*) compared to the *Altland* texts as evidence of an ongoing gradual shift away from Theme> Beneficiary order, in which the Eastelbian texts are characteristically innovative. Crucially, this only becomes apparent once diatopic variation is taken into account, which Petrova (2015) could not do due to her much more limited sample of data; likewise Rauth (2020) does not explicitly consider the *Altland*/*Neuland* distinction.

4.3 Syntactic environment

The CHLG data shows that both object orders (Theme>Beneficiary, Beneficiary>Theme) are attested across all four environments outlined in Section 3 (middle field (MF), final field (FF), split and open), with Beneficiary>Theme order preferred across all environments, cf. Table 8 and the Parallel Sets plot in Figure 4. It is noteworthy that the "open" category, where in principle one cannot firmly say whether the objects occupy the middle field or final field due to the absence of a right sentence bracket, patterns with the middle field rather than the final field category in terms of the proportion of Theme>Beneficiary order.

In addition, Theme>Beneficiary order is more strongly preferred in the final field compared to other environments, middle field included. Categorical differences in the order of elements in the final field versus middle field ("mirror effects") are well known in modern CWGMc with respect to the relative ordering of adjunct PPs and argument PPs in Dutch (Koster 1974, 2000, 2001, Zwart 2011, Broekhuis & Corver 2019) and the order of time, place and manner adjuncts in Standard German (Haider 2000, Pittner 2004), and related effects have been recently shown for MLG (Booth et al. Forthcoming). The data in Table 8 indicate that, although no *categorical* mirror effect can be identified for object order in MLG, a subtle difference in word order prefer-

ence between the middle field and final field is still evident.[10]

environment	Theme>Ben	Ben>Theme	total	%Theme>Ben
middle field	10	54	64	15.6%
final field	14	47	61	23.0%
split	4	31	35	11.4%
open	17	88	105	16.2%
all	45	220	265	17.0%

Table 8 Object order in ditransitive constructions in CHLG across four environments (1250–1550)

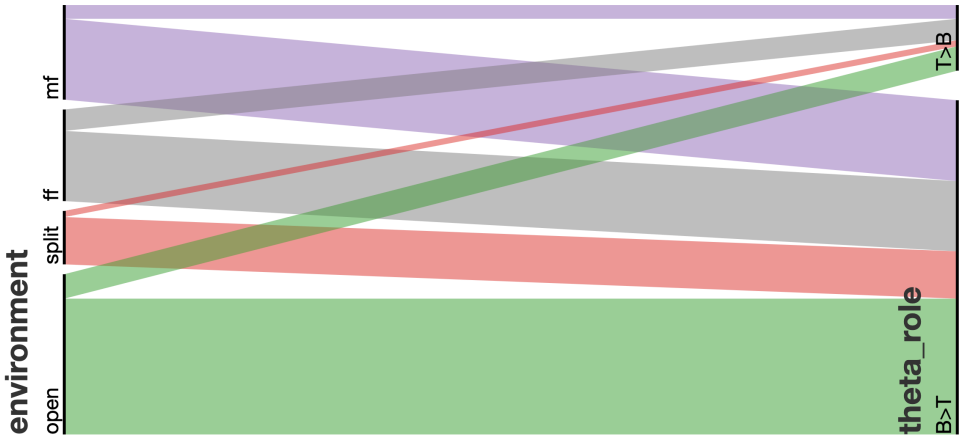


Figure 4 Interaction between environment (left-hand dimension, to to bottom: middle field (mf); final field (ff); split; open) and object order (right-hand dimension, top to bottom: T(heme)>B(eneficiary); B(eneficiary)>T(heme) in ditransitive constructions in CHLG

With respect to the "split" environment, where one object is situated in the middle field and the other in the final field, the frequency of Theme> Beneficiary order is relatively low and Beneficiary>Theme order is more strongly preferred compared to other environments. In other words, in such contexts, Themes are more likely to be "extraposed" to the final field than Beneficiaries. We suggest that this is due to prosodic and information-structural

10 Rauth (2020: 318, 377) observes a similar difference between the middle field and final field and attributes it to the effect of contrastive focus.

reasons. Many of the Beneficiaries in our data concern prosodically relatively light objects which express definite, i.e. discourse-given information, while the Themes are often prosodically heavy and represent new information, cf. the examples in (12).

(12) (a) *...de solde* [***der stat***] *weden* [***tyn mar vnde eyn voder wines***]
DEM.NOM should DEF.DAT city pay ten horses.ACC and INDEF.ACC cartload wine.GEN
'that person should pay the city in ten horses and a cartload of wine' (CHLG: RUETHEN.WP.LAW.265)

(b) *vnde dey sal* [***deme richtere***] *weder gheuen* [***dat hey dar an gheleghet heuet***]
and DEM.NOM shall DEF.DAT judge.DAT PTCL give DEM.ACC he.NOM there PTCL placed has
'and that person shall return to the judge that which he has placed on there' (CHLG: SOEST.WP.LAW.75)

(c) *Ock schal de brudegam de des Rades both holt* [***der bruth***] *geuen* [***allene eyn par scho vnd pottinen vnde nicht mere***]...
also shall DEF.NOM bridegroom REL.NOM DEF.GEN council.GEN command holds DEF.GEN bride give only DEF.ACC par shoes and clogs and NEG more
'And the bridegroom, who holds the command of the council, shall give to the bride only a pair of shoes and clogs and nothing more...' (CHLG: GREIFSWALD.EE.LAW.140)

Given the prosodic and information-structural tendencies for Themes versus Beneficiaries in our data, together with the fact that constituents which occur in the final field tend to be prosodically heavy and bear new-information focus in historical CGWmc (e.g. Ebert 1980, Morlicchio 1991, Cloutier 2009, Sapp 2014), it is not surprising that, in the split contexts, the extraposed object is more likely to be the Theme, resulting in overall Beneficiary>Theme order.

5 "Basic" word order?

As discussed in Section 2, both Speyer (2015, 2016) and Petrova (2015) argue that Acc>Dat (i.e. Theme>Beneficiary) order is the "basic" order for Old/Middle High German (pre-1500) and Middle Low German respectively, making arguments rooted in the assumptions of transformational syntax. In this section, we review the validity of this claim with respect to MLG via the

CHLG data, considering also a broader perspective on "basic" word order, in line with the general consensus in the more typologically-oriented literature (e.g. Hawkins 1983, Dryer 1995, Croft 2003, Song 2010) and the view from non-transformational theoretical approaches.

5.1 Thematic roles and their semantic-pragmatic correlates

As discussed in Section 2, Petrova (2015) looked at animacy and definiteness, alongside other factors, and found that semantic-pragmatic ordering preferences (e.g. animate>inanimate, definite>indefinite) coincided with a higher frequency of Dat>Acc (i.e. Beneficiary>Theme) order compared to the rest of the data. Petrova looked at how such factors interacted with case ordering independently, but did not consider them together. By combining animacy and definiteness, one can approach the issue from another angle: one can isolate examples where the order of objects is in line with semantic-pragmatic preferences (i.e. animate>inanimate, definite>indefinite) and see what the preferred ordering is in terms of thematic roles; one can also do the same for examples where the order of objects goes against these preferences (i.e. inanimate>animate, indefinite>definite).

On first sight, the CHLG findings here appear to be in line with Petrova's line of argumentation. There are 138 examples in the dataset where the order of objects conforms to the semantic-pragmatic ordering preferences (animate>inanimate, definite>indefinite), and all 138 show Ben(eficiary)>Theme (≈Dat>Acc) order, see Table 9. By contrast, in the 11 examples where the object order does not conform to the semantic-pragmatic tendencies (inanimate>animate, indefinite>definite) all show Theme>Ben(eficiary) (≈Acc>Dat) order, see again Table 9.[11] The interaction with animacy in particular matches the finding of Speyer (2015, 2016) for Old/Middle High German; as in the CHLG data in Table 9, Speyer found no examples where Acc>Dat (i.e. Theme>Beneficiary) order coincided with animate>inanimate order, and no examples where Dat>Acc (i.e. Beneficiary>Theme) order coincided with inanimate>animate order.

As discussed in Section 2, both Speyer (2015, 2016) and Petrova (2015) use the fact that Dat>Acc order coincides with semantic-pragmatic order-

11 At this point we only consider a subset of the data where the objects differ both in terms of their animacy and definiteness values. Below in Section 5.2, we examine those examples where the objects have the same value for both animacy and definiteness as contexts of semantic-pragmatic neutrality. These are the two subsets which are directly relevant for our argument concerning the basic order issue. The remaining datapoints, i.e. those examples where the objects differ in *either* animacy or definiteness, we do not address here, since we do not believe these to be as instructive on the basic order issue.

semantic/pragmatic order	Theme>Ben	Ben>Theme	total	%Theme>Ben
anim>inanim, def>indef	0	138	138	0.0%
inanim>anim, indef>def	11	0	11	100.0%

Table 9 Object order in ditransitive constructions in CHLG and the interaction with animacy and definiteness

ing preferences to argue that Dat>Acc order is "derived", (presumed to be triggered by semantic-pragmatic factors) and Acc>Dat order "basic". If we accept this line of reasoning, the same claim could be made on the basis of the CHLG data in Table 9, which represents a much larger sample than that examined by Petrova (2015). However, this line of argument does not take into account the linking between case-marking (Acc/Dat) and thematic roles (Theme/Beneficiary), and crucially the semantic-pragmatic correlates of Themes and Beneficiaries.[12]

Although both Speyer (2015, 2016) and Petrova (2015) describe the order of objects in terms of case-marking, their dative-marked objects will be Beneficiaries and their accusative-marked objects will be Themes, in line with the general mapping correspondences between case and thematic roles in German. Casting the object ordering in terms of thematic roles rather than case-marking, as we do in Table 9 above, casts new light on the interactions observed by Speyer and Petrova; the pragmatically preferred ordering (animate>inanimate, definite>indefinite) consistently coincides with Beneficiary >Theme order, while the (much less frequent) reverse ordering (inanimate> animate, indefinite>definite) always matches up with Theme>Beneficiary order. In other words, in ditransitive examples where the objects differ both in terms of animacy and definiteness in this way, the animate, definite object is always the (dative-marked) Beneficiary and the inanimate, indefinite object always the (accusative-marked) Theme.[13]

This neat interaction is unsurprising given the general semantic-pragmatic correlates of Beneficiary and Theme arguments; Beneficiaries are expected to be generally animate and in the CHLG sample are often expressed as per-

12 Speyer (2015) does discuss the linking between case and thematic roles, drawing on work by Primus (2012), but does not explicitly address the relevant semantic-pragmatic correlates of Themes and Recipients in this context.

13 There are also a small amount of examples (n=5) with animate>inanimate, indefinite>definite ordering which all have Beneficiary>Theme order, and one example with inanimate>animate, definite>indefinite ordering, which has Theme>Beneficiary order.

sonal names which are tagged as definite (see Section 3). By contrast, Theme arguments are much more likely to be inanimate, and are generally realised as common nouns in the CHLG data which can be either definite or indefinite. These correlates of Beneficiaries and Themes are strongly reflected in the CHLG data, see the Parallel Sets plot in Figure 5, which shows that the majority of Beneficiaries in the data (green ribbon) are animate and definite, and the majority of Themes (purple ribbon) inanimate and indefinite. This reflects broader crosslinguistic tendencies regarding Beneficiaries/Recipients and Themes (e.g. Goldberg 2011, Kittilä, Västi & Ylikoski 2011, Ziegler & Snedeker 2018).

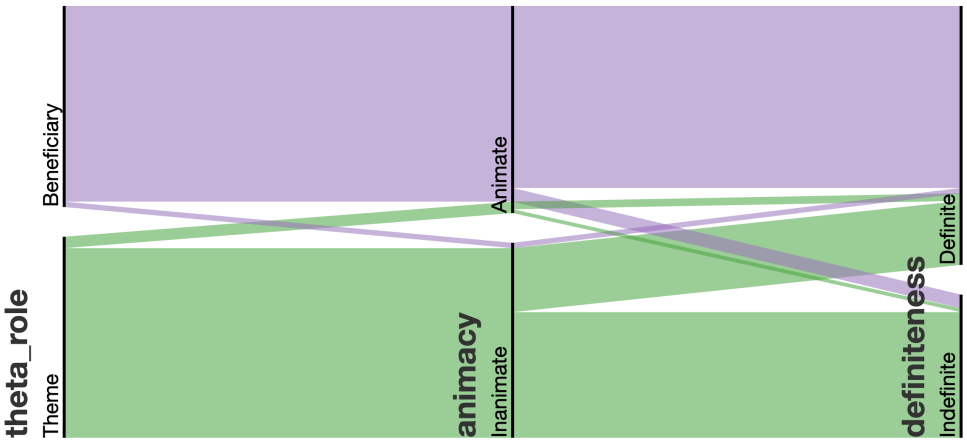


Figure 5 Interaction between thematic role (left-hand dimension, top to bottom: Beneficiary; Theme), animacy (central dimension, top to bottom: Animate; Inanimate) and definiteness (right-hand dimension, top to bottom: Definite; Indefinite) in ditransitive constructions in CHLG

Taking into account the general semantic-pragmatic correlates of Themes and Beneficiaries and the linking between thematic roles and case-marking, there is thus an independent explanation for the fact that animate>inanimate, definite>indefinite order coincides with Dat>Acc (i.e. Beneficiary>Theme) order and inanimate>animate, indefinite>definite order with Acc>Dat (i.e. Theme>Beneficiary) order, as in the findings of Speyer (2015, 2016) and Petrova (2015) and in the CHLG data in Table 9. On this understanding, the reasoning by which both Speyer and Petrova claim that Dat>Acc must be a "derived" order and Acc>Dat "basic" seems weak. As shown here for the CHLG data, the type of evidence they rely on – that Dat>Acc order coincides with e.g. ani-

mate>inanimate and definite>indefinite, and the reverse for Acc>Dat order, is in fact the result of two sets of interactions involving argument-structure: (i) the linking between case and thematic roles and (ii) how thematic roles correlate with animacy and definiteness. Thus, while such evidence can be used to shed light on argument-structure related issues, it arguably does not stand up to scrutiny as the central piece of evidence for determining "derived" vs. "basic" order at a pure syntactic level (i.e. in terms of phrase structure and grammatical functions). Rather, on the question of a "basic" order of objects in ditransitives, one should rather turn to other types of evidence, as we do next.

5.2 Further types of evidence for "basic" word order

As mentioned in Section 2.3, three methods for the identification of "basic" word order are generally cited within the typological literature, in relation to: (i) frequency (e.g. Hawkins 1983, Croft 2003: 43–45, Song 2010, Dryer 2013), (ii) pragmatic neutrality (e.g. Mallinson & Blake 1981 Siewierska 1988: 8, Croft 2003: 43, Payne 2013, Fuß 2018, Höhle 2018) and (iii) morphological markedness (e.g. Hawkins 1983: 13, Whaley 1996: 102–104, Song 2010). We now consider these criteria in turn in relation to object order in the CHLG data.

5.2.1 Frequency

One of the most common types of evidence used to support claims of "basic" word order is frequency, by which the most frequent word order is used as a proxy for the most "basic" word order (e.g. Hawkins 1983, Croft 2003: 43–45, Song 2010, Dryer 2013). As Croft (2003: 44) notes, although frequency is sometimes used as a last resort when data for other measures is lacking, frequency as a criterion for basic word order is "remarkably reliable", even if the frequency of particular structures can vary from discourse type to discourse type, and from text to text (Siewierska 1988, Dryer 1995); see also Hawkins (1983: 15) who describes the frequency criterion for basicness as "very sensitive". On this measure alone, Beneficiary>Theme order unequivocally qualifies as the more "basic" word order, being more frequent than Theme>Beneficiary order across all three MLG sub-periods (see Table 6), across all four MLG scribal dialects (Table 7 and Figure 3), as well as across all syntactic environments (Table 8 and Figure 4).[14] In fact, in most of these

14 This is in line with Rauth (2020: 272) who claims indirect object > direct object (≈ Beneficiary>Theme) order is the "basic order" (*Grundabfolge*) in the history of German, based on its higher frequency (cf. Section 2.2.3).

cases the proportion of Beneficiary>Theme compared to Theme>Beneficiary order is high enough for Beneficiary>Theme to qualify as the "dominant order" in the terms of Dryer (2013), i.e. an order which is more than twice as common as the competing word order(s).

5.2.2 Pragmatic neutrality

Another common type of evidence for "basic" word order concerns pragmatic neutrality, whereby the order which occurs in pragmatically neutral utterances is considered to be "basic" (e.g. Mallinson & Blake 1981, Siewierska 1988: 8, Payne 2013). Indeed, this criterion is relevant to transformational approaches (see Section 2.1) and as such is taken up by Petrova (2015) and Speyer (2015, 2016) albeit in a rather specific way. However, there is no general consensus on the precise definition of "pragmatic neutrality" (see e.g. Dryer 1995 for extensive discussion). Some authors relate it to frequency, either in terms of absolute frequency (e.g. Greenberg 1966: 67, Dryer 1995), or in terms of distributional frequency (e.g. Lenerz 1977, Keenan 1978: 267, Dryer 1995). Dryer (1995: 116), for instance, states that, since in most languages the pragmatically unmarked order is also the order which occurs most frequently, frequency may thus be a "useful diagnostic" for pragmatic neutrality, even if it is not the ultimate defining characteristic. Distributional frequency has been particular relevant here, with some equating the pragmatically unmarked order to the order that occurs in the widest set of contexts (e.g. Lenerz 1977, Keenan 1978: 267; cf. Dryer 1995 on "default" and "elsewhere" order). Taking this connection at face value would suggest that Beneficiary>Theme, as consistently the most frequent order in the CHLG data, is also the pragmatically neutral order.

Of course, it is sensible to take into account actual pragmatics when trying to identify pragmatic neutrality. Yet here there are various different approaches and Dryer (1995: 127) notes that it is "very difficult" to provide convincing (directly pragmatic) evidence that a given construction is pragmatically unmarked. Some assume, for instance, that the relevant data are indicative clauses with full noun phrase participants, with a definite, agentive, human subject and a definite patient-like object (e.g. Siewierska 1988; see Mallinson & Blake 1981 for a similar approach). Others, meanwhile, take "thetic" utterances (Sasse 1987) as representative of pragmatic neutrality, i.e. utterances which do not depend on some other presupposition, and do not contain any topical material (e.g. Payne 2013, Fuß 2018). These would seem to be two conflicting approaches to identifying pragmatic neutrality, and so we decide instead to follow the approach described in Dryer (1995: 116), i.e. to focus on examples where extra-syntactic word order conditioning

factors are neutralised to the greatest extent possible.

To do this, we specifically examine examples in the CHLG data where the two objects have the same value with respect to definiteness, animacy and weight. Note that this is quite a different approach to that of Speyer (2015, 2016) and Petrova (2015), who specifically examine clauses where the objects differ in one or more of these factors, and for which there are clear (extra-syntactic) crosslinguistic ordering preferences. As Haspelmath (2015: 33) notes, when the objects of ditransitives have the same animacy value, one often observes word order freezing crosslinguistically, i.e. the usual flexibility in ordering is lost in favour of a fixed order. As such, clauses where (extra-syntactic) conditioning factors are neutralised have the potential to be particular instructive on the question of "basic" word order.

There are two examples in the CHLG data where the objects have the same values for animacy, definiteness and weight, and both examples occur with Beneficiary>Theme order, shown here in (13).[15]

(13) (a) *Jupiter nam* [***deme konninge von Etiopen genant*** ***Jnachus***] [***sine dochter genant Jo eder Jsis***]
Jupiter.NOM took DEF.DAT king.DAT of Ethiopia named Jnachus his.ACC daughter named Jo or Jsis
'Jupiter took from the King of Ethiopia named Jnachus his daughter named Jo or Jsis' (CHLG: ENGELHUS.EP.HIST.361)

(b) *Do toch Allexander ghenant Paris priami sone weder in greykenlant vnd nam* [***dem konninge genant Menelaus***] [***sine dochter ghenant Helena***]
then went Alexander.NOM named Paris Primus.GEN son.NOM again in Greece and took DEF.DAT king.DAT named Menelaus his.ACC daughter named Helena
'The Alexander, named Paris, son of Primus, went back to Greece and took from the King named Menelaus his daughter named Helena' (CHLG: ENGELHUS.EP.HIST.484)

If one ignores the weight condition – which was measured rather crudely (in terms of number of words) and is thus perhaps less reliable than the animacy and definiteness values – there are a total of eight examples where the objects differ neither in terms of animacy, nor in terms of definiteness (including the two examples in (13)). Of these eight overall examples, five have Bene-

15 We acknowledge that these examples allow for a possessive reading (kinship), but unfortunately this is rather unavoidable when looking specifically at examples with two animate and definite objects.

ficiary>Theme order, shown here in (13) and (14), and the remaining three have Theme>Beneficiary order, shown here in (15).

(14) (a) *Dar na gingk Noe* (…) *vnd opperde* [***gode***]
there after went Noah.NOM and sacrificed god.DAT
[***dat seuede derte aller reynen derte***]
DEF.ACC seventh.ACC animal all.GEN pure.GEN animals
'Thereafter Noah went (…) and offered to God as a sacrifice the seventh animal of all pure creatures'
(CHLG: ENGELHUS.EP.HIST.101)

(b) *de* (…) *vnd gaf* [***deme rechte***] [***den***
DEM.NOM and gave DEF.DAT law.DAT DEF.ACC
namen fforus] *von sime namen*
name.ACC Forus from his.DAT name.DAT
'He (…) and gave the law the name Forus after his name'
(CHLG: ENGELHUS.EP.HIST.251)

(c) *de gheven* [***hermen langen vnde henning***
DEM.NOM.PL give Hermen Langen and Henning
langhen] *vor dat loffte dat se vor*
Langhen for DEF.ACC promise.ACC REL they.NOM before
em gelauet hebben [***Arnd schulten dochter***] *vor*
he.DAT promised have Arnd Schulten daughter.ACC for
xl mark vnde ij punt renthe da vore
40 marks and 2 pounds return there fore
'They give Herman Langen and Henning Langen for the promise that they have made before him Arnd Schulte's daughter, for forty marks and two pounds in return'
(CHLG: SCHWERIN.EE.ADMIN.181)

(15) (a) *Men nu schal myne stymme* [***den stille***
but now shall my.NOM voice.NOM DEF.ACC quiet
swygende willen des volkes] [***dynen oren***]
hushed will.ACC DEF.GEN people.GEN your.DAT ears.DAT
vorbringen…
bring-forth
'But now my voice shall bring forth the quiet hushed will of the people to your ears' (CHLG: GRISELDIS.NLG.LIT.24)

(b) *to me ersten male beuele ik* [***myne***
to DEF.DAT first.DAT time commend I.NOM my.ACC
zele] [***deme almechtighen gode***]
soul.ACC DEF.DAT almighty.DAT god.DAT
'For the first time I commend my soul to the almighty god'
(CHLG: STRALSUND.EE.CHART.4)

(c) *Tho deme ersten male beuele ik* [***myne***
to DEF.DAT first.DAT time commend I.NOM my.ACC
sel] [***deme almeychtchen gode***]
soul.ACC DEF.DAT almighty.DAT god.DAT
'For the first time I commend my soul to the almighty god'
(CHLG: STRALSUND.EE.CHART.175)

In sum, in contexts where extra-syntactic conditioning factors can be considered to be neutralised, both Beneficiary>Theme order and Theme>Beneficiary order are attested, though, in line with the wider picture, Beneficiary>Theme order again is more frequent (5/8).[16] As such, on the pragmatic (and prosodic) neutrality measure, the evidence for Theme>Beneficiary (≈Acc >Dat) order as the more "basic" does not stack up.

5.2.3 *Morphological markedness*

Another commonly employed criterion for word order "basicness" concerns morphological markedness, whereby if two apparently competing word orders differ in terms of morphological markedness, the less marked one is considered to be more "basic" (e.g. Hawkins 1983: 13, Whaley 1996: 102–104, Song 2010). Usually, this criterion is applied to languages where there is a clear difference in morphological markedness between two or more competing word orders. An relevant example comes from Kutenai (Almosan-Keresiouan: Canada/United States), e.g. (16). Here there are two possible orders, VOS and VSO respectively, but there is an extra suffix on the verb in the VSO order (16 b) which is absent for the VOS order (16 a); on that basis, the order in (16 a) which lacks the suffix can be considered more "basic".

(16) (a) *wu·kat-i palkiy-s tiquat'*
see-IND woman-OBV man
'The man saw the woman'

16 Rauth (2020: 147–148) also neutralised the non-syntactic factors and made a similar observation for modern German dialects.

(b) *wu·kat-**aps**-i* *tiquat'-s* *palkiy*
see-INV-IND man-OBV woman
'The man saw the woman'
(Whaley 1996: 102, citing data from Dryer 1994)

With respect to the CHLG data, the two attested object orders (Theme> Beneficiary, Beneficiary>Theme) generally do not differ in morphological markedness; each object generally bears distinctive case-marking, with accusative-marking on the Theme and dative-marking on the Beneficiary, see e.g. the examples above in (14) and (15). As such, the morphological criterion as standardly applied for data like (16) is not relevant in the context of Middle Low German. However, given the gradual erosion of case morphology underway throughout the history of Low German (e.g. Lasch 1914, Shrier 1965, Härd 2000, Askedal 2005), one can approach the relation between morphological markedness and object order from a slightly different angle: by looking at examples where, due to case syncretism, there is no formal accusative/dative distinction marked on the two objects. There are 22 such examples in our CHLG data and all occur with Beneficiary>Theme order, e.g. (17).

(17) (a) *So lopen de riuieren (…) Vnde doen* [***vnse*** ***vleesch***]
so run DEF.NOM rivers.NOM and do our.NON-NOM flesh
[***penitencie***]
penitence
'So run the rivers (…) and do penitence to our flesh'
(CHLG: SPIEGHEL.WP.REL.1147)

(b) *Daer gaf got* [***adam***] [***lijf vnde siele beyde***].
there gave god.NOM Adam life and soul both
'There God gave Adam both life and soul'
(CHLG: SPIEGHEL.WP.REL.818)

(c) *Du scalt* [***verona***] [***orlef***] *geuen…*
you.NOM should Verona leave give
'You should give Verona leave' (CHLG: ZENO.EP.LIT.621)

(d) *vnde schal he geuen* [***symon obgnant***] *ock* [***xl*** ***mark***]
and shall he give Simon abovementioned also 40 marks
'and he shall give the abovementioned Simon also 40 marks'
(CHLG: SCHWERIN.EE.ADMIN.308)

We found a similar example, again with Beneficiary>Theme order, in the 17th century texts of the ReN corpus (ReN-Team 2021) (see Section 3), shown here in (18).

(18) *Dat* *gifft* [***de*** ***Rede***] [***sulke*** ***Zierlicheit***]
DEM.NOM gives DEF voice such richness
'That gives the voice such richness'
(ReN: Lauremberg, 1652, tokens 17221–17231)

This pattern is in line with the situation in modern Low German, where the case distinction between accusative and dative has been completely lost and where Beneficiary>Theme order is highly dominant (Rauth 2020). More broadly, the fact that, in the CHLG data at least, only Beneficiary>Theme order is attested in instances of case syncretism, i.e. less morphological markedness, casts further doubt on the claim that Acc>Dat, i.e. Theme>Beneficiary order is the more "basic" during the MLG period.

5.3 Reviewing the evidence

In this section, we have shown that the central evidence which has been previously presented to claim Acc>Dat (i.e. Theme>Beneficiary) order as the "basic" word order in MLG ditransitives has an independent explanation relating to the general crosslinguistic semantic-pragmatic correlates of Beneficiary and Theme arguments and, as such, does not hold up as evidence for or against purely syntactic principles. We have also shown that applying some standard typological criteria for "basic" word order to the CHLG data casts further doubt on the claim that Acc>Dat (i.e. Theme>Beneficiary) order is in some way "basic" in MLG ditransitives. Rather, three criteria concerning frequency, pragmatic neutrality and morphological markedness if anything point towards Beneficiary>Theme order being more "basic".

Overall, the CHLG findings indicate a language stage where both Theme> Beneficiary and Beneficiary>Theme order are attested, but where Beneficiary >Theme order is strongly dominant, and is likely increasing in dominance (see e.g. the results for *Neuland* vs. *Altland* texts in Section 4.2, as well as the data from examples with case syncretism in Section 5.2.3). Within transformational approaches to grammar, one is forced into assigning a particular syntactic word order as "basic" for theory-internal reasons, given that grammatical functions are assumed to be universally structurally identified. However, as already mentioned in Section 2, in other linguistic traditions it is recognised that it is not possible to ascribe a "basic" order in terms of grammatical functions to certain languages (e.g. Li & Thompson 1976, Thompson

1978, Brody 1984, Hale 1992, Mithun 1992, Payne 1992, Kiss 1995, Song 2010, Paul & Whitman 2017). As we outline in Section 6, one theoretical approach which leaves the door open for languages where no *syntactically* "basic" order in terms of grammatical functions can be easily stated and represented in the phrase-structure is Lexical Functional Grammar (LFG, Kaplan & Bresnan 1982, Bresnan et al. 2016, Dalrymple et al. 2019).

6 The view from Lexical Functional Grammar

6.1 *Lexical Functional Grammar*

Lexical Functional Grammar (LFG, Kaplan & Bresnan 1982, Bresnan et al. 2016, Dalrymple et al. 2019) represents a declarative approach to grammar (cf. Pullum & Scholz 2001, Levine & Meurers 2006, Sells 2021). Thus, unlike some other theoretical approaches, it does not commit to any particular procedural mechanisms for deriving linguistic representations. Rather, LFG assumes a model-theoretic approach in which all information is simultaneously present within a parallel architecture. This parallel architecture models "grammar" as broadly construed, thus encompassing not just syntax but also e.g. morphology, semantics, information-structure and prosody. Within this parallel architecture, different types of linguistic information are captured at independent, interacting dimensions, which are related to one another as part of an overall projection architecture, see Figure 6.

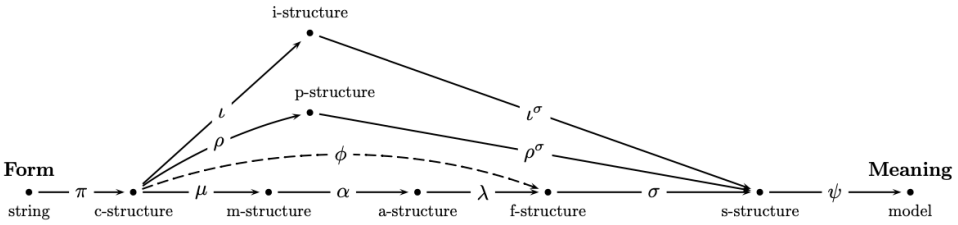


Figure 6 Parallel projection architecture of LFG (Asudeh 2006: 369)

Each dimension differs in terms of its formal representation and must satisfy certain constraints. Syntactic representation consists of two specific dimensions, *c(onstituent)-structure*, which captures information about category and constituency, and *f(unctional)-structure*, which captures abstract functional information, including grammatical functions and features. There are

then further (non-syntactic) dimensions which are represented on their own terms but interact with syntax (c-structure/f-structure) via principled correspondences. Asudeh's architecture as in Figure 6 assumes *m(orphological)-structure*, *a(rgument)-structure*, *s(emantic)-structure*, *p(rosodic)-structure*, as well as an independent *i(nformation)-structure*. c-structure, f-structure and a- structure are of specific relevance to this paper and so we outline the core details of these dimensions below. For a fuller outline of the various dimensions, see e.g. Dalrymple et al. (2019) and contributions in Dalrymple (Forthcoming).

6.1.1 f-structure

One of the dual components of syntactic representation within LFG is f- structure, at which the abstract functional information associated with a sentence is represented. This includes grammatical functions (GFs) e.g. SUBJ(ect) and OBJ(ect), as well as grammatical features, e.g. TENSE, CASE and DEF(initeness). A special type of functional feature is PRED, which is a pointer into the semantics of a predicate and captures the argument(s) (if any) a predicate requires in terms of grammatical function. f-structure representations take the form of attribute-value matrices which consist of an unordered set of attribute-value pairs and are expected to be largely invariant across languages ("principle of universality", Bresnan et al. 2016: 42). An example f-structure for the English ditransitive construction in (19) is given in (20).

(19) Maria gave her the focaccia.

(20)
$$\begin{bmatrix} \text{PRED} & \text{'GIVE <SUBJ,OBJ,OBJ}_\theta\text{>'} \\ \text{TENSE} & \text{PST} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'MARIA'} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'PRO'} \end{bmatrix} \\ \text{OBJ}_\theta & \begin{bmatrix} \text{PRED} & \text{'FOCACCIA'} \\ \text{DEF} & + \end{bmatrix} \end{bmatrix}$$

In (20), the PRED value for the ditransitive verb *give* subcategorises for three argument functions, SUBJ(ect), OBJ(ect) and OBJ(ect)$_\theta$. The LFG approach to objects starts from the assumption that languages allow a single thematically unrestricted object, i.e. an object which is not restricted to a particular thematic role (=the "primary" object or OBJ) (Dalrymple et al. 2019: 25). In addition to this, languages may allow one or more secondary objects which

are thematically restricted (=OBJ$_\theta$) (Dalrymple et al. 2019: 25–26).[17] When referring to specific examples, secondary objects can be indexed to some thematic role (e.g. OBJ$_{\text{THEME}}$, OBJ$_{\text{PATIENT}}$); when not talking about specific examples, this index is generalised simply to OBJ$_\theta$. In English examples like (19), the standard LFG analysis is that the grammatical function of the Beneficiary argument (*her*) is OBJ and Theme argument (*the focaccia*) is an OBJ$_\theta$. This assignment falls out from the correspondence principles which map thematic roles at a(rgument)-structure to grammatical functions at f-structure, as we discuss next.[18]

6.1.2 *a-structure*

LFG's a(rgument)-structure essentially serves as the interface between the semantics and syntax of predicates and represents information about both the syntactic arguments required by a predicate and the semantics a predicate entails. a-structures are represented as predicate-argument arrays, as in (22), which shows the a-structure for the verb *give* as used in (19), where it involves three semantic participants, an Agent (*Maria*), Beneficiary (*her*) and Theme (*the focaccia*).

(22) *give* < Agent [−o] Beneficiary [−r] Theme [+o] >

As in (22), at a-structure the arguments of a predicate are ordered left-to-right according to a thematic hierarchy, cf. (23) (Bresnan et al. 2016: 329).

(23) **Thematic Hierarchy**
Agent > Beneficiary > Experiencer/Goal > Instrument > Patient/Theme > Locative

Each participant in (22) also bears a feature [±o(bjective)] or [±r(estricted)], which represents an intrinsic syntactic classification, based on the crosslinguistic generalisations in (24).

17 A similar distinction between primary/unrestricted objects and secondary/restricted objects was argued for by Dryer (1986) on typological grounds.

18 Note however that, in the equivalent PP construction, the assignment of grammatical functions is standardly assumed to be different (see also the mapping in (29)):

(21) Maria gave [the focaccia]OBJ [to her]OBL$_\theta$

(24) (a) theme/patientlike roles: [–r]
(b) secondary patientlike roles: [+o]
(c) other roles (e.g. Agent, Locative, Goal): [–o]

In terms of which roles are treated as patientlike vs. secondary patientlike, this is not universal but rather varies crosslinguistically (Bresnan et al. 2016: 331). In English, the secondary patientlike role is generally assumed to be the role which is lower on the thematic hierarchy (Bresnan 1990: 645), cf. (23). Thus, in an English ditransitive involving two objects, the Beneficiary will be the (primary) patientlike role ([–r]) and the Theme argument will be the secondary patientlike role [+o], cf. (22). In those Germanic languages which have a dative external possessor construction, e.g. Norwegian and German, it has been argued that the reverse applies: the higher of the two thematic roles (i.e. the Beneficiary) is selected as the secondary patientlike role [+o] (Lødrup 1995, 2019, Cook 2006). We return to this in Section 6.2 in relation to Middle Low German.

6.1.3 *Lexical Mapping Theory*

The correspondence between a-structure and f-structure is handled by Lexical Mapping Theory (Bresnan & Kanerva 1989, Bresnan et al. 2016: 333–334), which constrains the mapping of thematic roles to grammatical functions in a principled way, based on crosslinguistic tendencies.[19] Central to Lexical Mapping Theory is the observation that there are restrictions on the possible grammatical functions with which an individual argument can be associated (e.g. Bresnan & Kanerva 1989). As in (22), thematic roles at a-structure are associated with an intrinsic syntactic classification in terms of the binary features [±r(estricted)] and [±o(bjective)]. This draws on the decomposition of grammatical functions into features shown in (25) (Bresnan & Kanerva 1989: 24). The [±r] feature captures whether or not a grammatical function is restricted in terms of which thematic roles can be associated with it; the [±o] feature captures whether or not a grammatical function is object-like.

(25)

	[–r]	[+r]
[–o]	SUBJ	OBL_θ
[+o]	OBJ	OBJ_θ

19 Various versions of the original Lexical Mapping Theory of Bresnan & Kanerva (1989) have been proposed, most notably by Kibort (2007, 2008, 2014), Kibort & Maling (2015). In this paper, we assume the principles outlined in Bresnan et al. (2016: 333–334).

Given the decomposition of grammatical functions in (25) in terms of [±o] and [±r], thematic roles at a-structure are underspecified in terms of the compatible grammatical functions, cf. (22). For the mapping correspondence between a-structure and f-structure, the underspecified thematic roles are mapped onto compatible grammatical functions in line with a few general constraints, shown in (26) (cf. Bresnan et al. 2016: 334).

(26) (a) The most prominent role (in terms of the thematic hierarchy) which is classified [–o] is mapped to SUBJ

(b) If such a role is unavailable, a non-agentive unrestricted role (a [–r] role) is mapped to SUBJ

(c) Other roles are mapped onto the lowest compatible function on the following markedness hierarchy of grammatical functions:
SUBJ > OBJ, OBL_θ > OBJ_θ

Assuming the mapping principles in (26), the three arguments of *give* as in (22) will map to the grammatical functions as shown in (27). As the most prominent role classified [–o], the Agent maps to SUBJ (cf. (26 a)). Given the principle in (26 c), the Beneficiary as [–r] can in principle map to SUBJ or OBJ, but since a grammatical function can only map to one thematic role, it maps to OBJ. The Theme, being [+o], can in principle map to OBJ or OBJ_θ; since there can only be one OBJ in the clause, it maps to OBJ_θ.

(27)

give	<	Agent	Beneficiary	Theme	>
		[–o]	[–r]	[+o]	
		|	|	|	
		SUBJ	OBJ	OBJ_θ	

By contrast, in the alternative PP-construction as in (28), *give* is assumed to subcategorise for an Agent (*Maria*), a Goal (*to her*) and a Theme (*the focaccia*), cf. the corresponding a-structure in (29). Given the different thematic roles involved, the mapping to f-structure is different, as shown in (29).

(28) Maria gave the focaccia to her

(29)

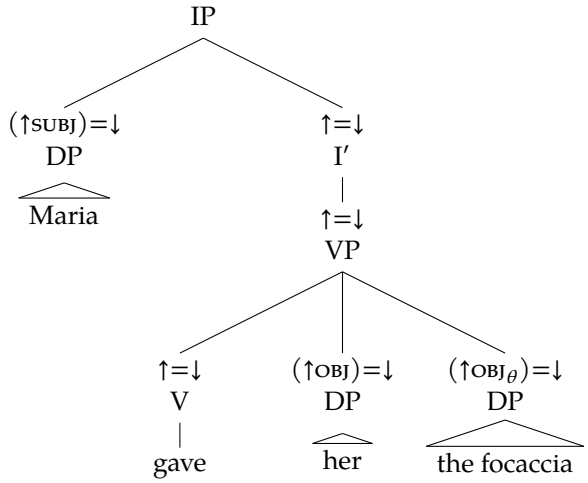
give	<	Agent	Goal	Theme	>
		[–o]	[–o]	[-r]	
		|	|	|	
		SUBJ	OBL_θ	OBJ	

6.1.4 c-structure and its correspondence with f-structure

Since abstract functional information is represented at f-structure, and information about semantic participants at a-structure, LFG's c-structure represents information concerning category and constituency alone. As such, the only evidence on which c-structures can be determined is constituency tests and linear word order; evidence pertaining to semantics or abstract functional properties relate to other dimensions and as such cannot be used as evidence for/against a particular c-structure (cf. Dalrymple et al. 2019: 93–95). Thus the types of evidence often used to diagnose phrase-structure relations in transformational approaches, such as binding relations, are assumed not to pertain to c-structure, but rather to reflect relations between grammatical functions at f-structure (e.g. Dalrymple 1993, Snijders 2015, Bresnan et al. 2016, Dalrymple et al. 2019).

c-structures are represented as tree diagrams and are expected to vary across different languages and language stages (cf. Bresnan et al. 2016: 41–42). The relation between c-structure and f-structure is partially constrained by functional annotations on c-structures which associate individual c-structure nodes with corresponding f-structures. An example of this is shown for the English ditransitive construction with its accompanying c-structure in (30).[20]

(30) Maria gave her the focaccia.



In the tree in (30), ↓ and ↑ are metavariables over f-structure variables and serve to relate every node in the c-structure to its corresponding f-structure. ↓ denotes the f-structure corresponding to that node itself, and ↑ denotes the f-structure corresponding to that node's mother node. As such, SpecIP bears a

20 Since the standard assumption within LFG is that only finite auxiliaries are of the category I (Bresnan et al. 2016: 102), in the c-structure in (30) which has a single finite main verb, I is absent via the principle of Economy of Expression, which we discuss below (see (32)).

functional annotation which relates that node to the SUBJ function of the maximal f-structure; the annotations on the complements of V relate each node to the corresponding object functions (OBJ, OBJ_θ). The notation ↑=↓ indicates that the functional information associated with a given node is the same as the functional information associated with that node's mother node.

As exemplified by the structure of the VP in (30), LFG's c-structures do not necessarily need to be binary-branching. As such, the standard analysis for English ditransitives is that the two objects are in a sisterhood relationship under V, that is, one object is not structurally higher than another (e.g. Asudeh, Giorgolo & Toivonen 2014: ex. (65), Dalrymple et al. 2019: 120). As such, the c-structure rules which are assumed for English and determine the set of permissible c-structures in the language standardly involve some form of the VP rule in (31) (cf. Börjars, Nordlinger & Sadler 2019: 48), where we omit potential PP and CP complements of V for sake of exposition.

(31) $\text{VP} \longrightarrow \underset{\uparrow=\downarrow}{\text{V}} \quad \underset{(\uparrow\text{OBJ})=\downarrow}{\text{DP}} \quad \underset{(\uparrow\text{OBJ}_\theta)=\downarrow}{\text{DP}} \quad \ldots$

Any c-structure is constrained by the principle in (32) (Bresnan et al. 2016: 90–92).

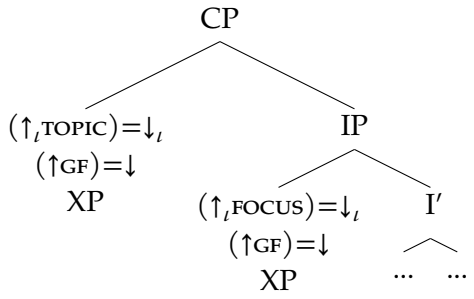
(32) **Economy of Expression**
All syntactic phrase structure nodes are optional and are not used unless required by independent principles.

The principle of Economy of Expression means that nodes which are functionally and semantically redundant are omitted. Economy of Expression has the consequence that all categories on the right-hand side of a c-structure rule like (31) are in principle optional. A ditransitve predicate which selects for both an OBJ and an OBJ_θ as in (20) will involve both of the DP nodes in (31), a monotransitive predicate only the OBJ, and an intransitive predicate just the verb.

English is a strongly configurational language, and so grammatical functions are specified by functional annotations on c-structure positions, cf. (30). However, given LFG's inherent separation of position and function, grammatical functions do not necessarily need to be structurally specified; they can be identified structurally, morphologically, or via a mixture of these two means (e.g. Nordlinger 1998, Nordlinger & Bresnan 2011, Snijders 2015, Bresnan et al. 2016, Booth 2021). LFG also allows for strongly discourse-configurational languages, which have been modelled in LFG in terms of the relation between c-structure and a separate i(nformation)-structure (Butt & King

1997, Gazdik & Komlósy 2011, Booth 2021). Such work assumes that c-structure maps to i-structure via the projection function ι (cf. the overall projection architecture in Figure 6).[21] This allows one to model strongly discourse-configurational languages as languages where c-structure positions can specify particular discourse functions, just as they might specify specific argument functions in other languages. The c-structure for a hypothetical discourse-configurational language with dedicated topic and focus positions is shown in (33), where the arrows annotated with ι indicate projection to i-structure and where the SpecCP and SpecIP positions are associated with any grammatical function (GF) at f-structure.

(33)



Such an approach thus leaves the door open for languages where no *syntactically* "basic" order (in terms of argument functions at f-structure) can be easily stated, and also for languages to subtly and gradually change from having a more pragmatically driven word order to a more syntactically driven word order over time. In terms of the understanding of "basic" word order, LFG is in this respect more aligned to the view taken within the typological literature, where facts concerning frequency, pragmatic neutrality and morphological markedness are relevant considerations, and where the possibility of a language having no "basic" *syntactic* order is permitted. The reasoning of Speyer and Petrova, however, does not allow for this possibility, as demanded by theoretical requirements internal to transformational syntax (i.e. the need for argument functions to be structurally identified in the phrase structure).

6.1.5 Summary

In sum, LFG's parallel architecture separates out phrase-structural relations (at c-structure) from grammatical functions (at f-structure), thematic roles

21 For a different proposal, see Dalrymple et al. (2019: chapter 10) who present a model where i-structure instead projects from s(emantic)-structure. A comparison of the different proposals for how to integrate information structure into the LFG architecture is provided in Dalrymple & Nikolaeva (2011: chapter 4) and in the handbook chapter by Zaenen (Forthcoming).

(at a-structure) and information sturcture (at i-structure), and models the correspondences between these levels of representation via mapping relations. We show the full mapping for our English ditransitive example in Figure 7.[22]

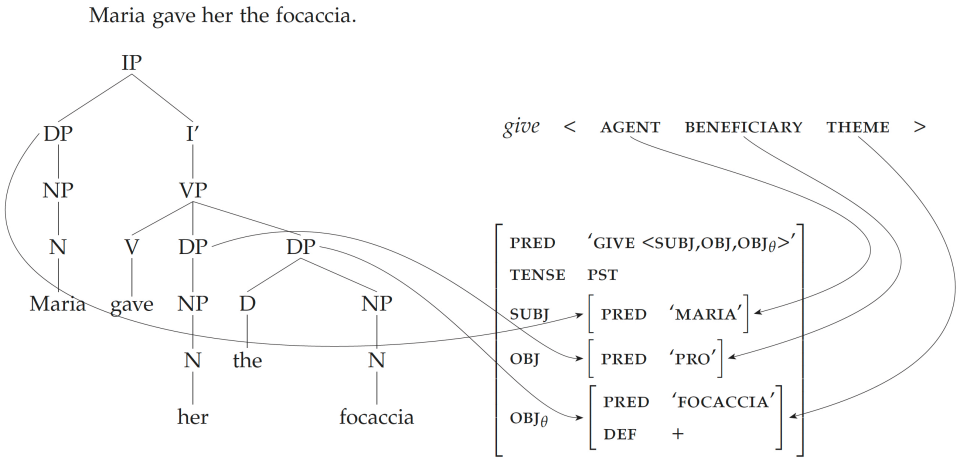


Figure 7 Mapping correspondences between c-structure, f-structure and a-structure for arguments in English ditransitives

6.2 Middle Low German ditransitives

It is not our intention in this paper to outline a fully-blown formal analysis within LFG for Middle Low German ditransitives, but simply to show that the formal machinery of LFG's parallel architecture can elegantly handle the main facts we have presented here, notably that (i) the order of Beneficiary and Theme arguments shows considerable flexibility throughout the period, and (ii) Beneficiary>Theme order is overall dominant and increasing in dominance over time.

In line with the rest of the paper, we assume the a-structure in (34) and at f-structure the subcategorisation frame in (35) for the broad category of MLG ditransitive double object constructions.

(34) ditransitive < Agent Beneficiary Theme >

22 For sake of exposition, in Figure 7 we only show the c-structure to f-structure mappings at the DP level; in principle also the NP, N, and D notes internal to the DPs will map to the relevant grammatical functions at f-structure, and the IP, I′, VP and V nodes will map to the outer f-structure.

(35) PRED '...<SUBJ, OBJ, OBJ_θ>'

In terms of the correspondence between a-structure and f-structure, we follow Lødrup (1995, 2019) and Cook (2006) in assuming that, since MLG has the dative external possessor construction (cf. Booth & Rehn 2023), the higher of the two thematic roles on the Thematic Hierarchy (cf. (23)) is selected as the secondary patientlike role and thus receives [+o] as its intrinsic syntactic classification, i.e. the Beneficiary and not the Theme, cf. (36).

(36)

ditransitive	<	Agent	Beneficiary	Theme	>
		[–o]	[+o]	[–r]	

In line with the mapping principles outlined in (26), the Agent, as the most prominent role classified [–o], is mapped to SUBJ, and the Beneficiary and Theme are respectively mapped onto the lowest compatible functions on the markedness hierarchy of grammatical functions in (26 c): the Beneficiary, as [+o], can in principle map to OBJ or OBJ_θ, but maps to OBJ_θ as this is lower on the markedness hierarchy; the Theme, as [–r] can only map onto OBJ, since the other [–r] grammatical function is SUBJ, which already maps to Agent (cf. "function-argument bi-uniqueness", Bresnan et al. 2016: 334). The full a-structure with f-structure mappings is shown in (37).

(37)

ditransitive	<	Agent	Beneficiary	Theme	>
		[–o]	[+o]	[–r]	
		|	|	|	
		SUBJ	OBJ_θ	OBJ	

With respect to case, in LFG case-marked forms are stored in a richly articulated lexicon, where individual lexical entries encode information about the case features of specific items. Thus, a NOM(inative)-marked noun will have the lexical entry in (38 a), an ACC(usative)-marked noun the entry in (38 b) and a DAT(ive)-marked noun the entry in (38 c). The function applications in the form (↑ CASE) = NOM etc. essentially define a higher f-structure, which is specified as having a CASE attribute whose value is (in this instance) NOM(inative).

(38) (a)

N	(↑ PRED) = '...'
	(↑ CASE) = NOM
	(SUBJ ↑)

(b) N $(\uparrow \textsc{pred}) = \text{'...'}$
$(\uparrow \textsc{case}) = \textsc{acc}$
$(\textsc{obj} \uparrow)$

(c) N $(\uparrow \textsc{pred}) = \text{'...'}$
$(\uparrow \textsc{case}) = \textsc{dat}$
$(\textsc{obj}_\theta \uparrow)$

As part of the MLG grammar, we assume that argument functions (e.g. SUBJ, OBJ, $\textsc{obj}_\theta$) can be identified via a combination of dependent-marking on nominals (case) and head-marking (subject-verb agreement), as is the standard LFG view for modern Standard German (e.g. Berman 2003, Cook 2006).[23] To model the specification of argument functions via case-marking, we follow the constructive case approach of Nordlinger (1998), which is reflected in the three lexical entries in (38) by the annotations (SUBJ ↑), (OBJ ↑) and ($\textsc{obj}_\theta$ ↑) respectively. These are examples of "inside-out" function applications: (SUBJ ↑) states that the f-structure to which the nominal belongs is the value of a SUBJ function in a higher f-structure, thus working from the inside outwards in the overall f-structure. The resulting f-structure for a ditransitive construction where the three argument functions are identified via case-marking in this way is shown in (39).

(39)
$$\begin{bmatrix} \textsc{pred} & \text{'...<SUBJ, OBJ, OBJ}_\theta\text{>'} \\ \textsc{subj} & \begin{bmatrix} \textsc{pred} & \text{'...'} \\ \textsc{case} & \textsc{nom} \end{bmatrix} \\ \textsc{obj} & \begin{bmatrix} \textsc{pred} & \text{'...'} \\ \textsc{case} & \textsc{acc} \end{bmatrix} \\ \textsc{obj}_\theta & \begin{bmatrix} \textsc{pred} & \text{'...'} \\ \textsc{case} & \textsc{dat} \end{bmatrix} \end{bmatrix}$$

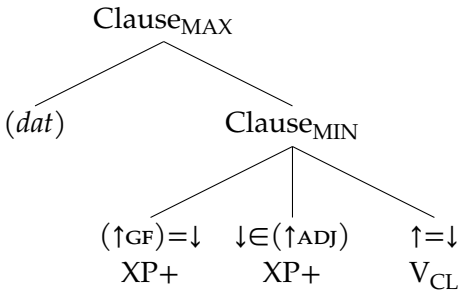
With respect to c-structure, for MLG we assume a a flat middle field area, cf. the structure in (40), as assumed for e.g. modern German by Choi (1999) and Cook & Payne (2006).[24] In the tree in (40), we follow Cook & Payne (2006) and use the schematic labels $\text{Clause}_{\text{MAX}}$ and $\text{Clause}_{\text{MIN}}$ to avoid issues relating to category labels which are not relevant for our paper. Within

23 Besides the correspondence between case and argument functions shown in (38), in MLG one will also expect some lexically-specified variation to crosscut this, resulting in e.g. genitive-marked OBJs in certain contexts. We leave these specifics for future work.

24 See also Sells (2001, 2005) and Börjars, Engdahl & Andréasson (2003) who posit similar structures with a flat middle field for North Germanic.

$\text{Clause}_{\text{MIN}}$, there is a flat middle field area in which any grammatical function (GF) can occur as well as any number of ADJ(unct)s, alongside the verbal complex (V_{CL}).

(40)

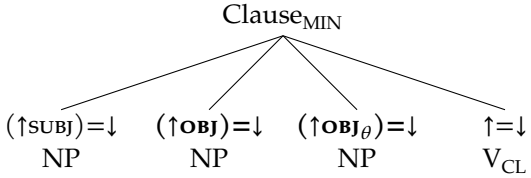


Crucially, because MLG generally has case-marking on nominals which correspond with argument functions in a principled way, argument functions can for the most part be identified on the basis of morphology alone, and thus need not be associated with fixed positions at c-structure. Thus, in terms of the order of arguments in the middle field, we can assume the c-structure rule in (41) for $\text{Clause}_{\text{MIN}}$, where the commas indicate that the rule is to be understood in terms of dominance relations, but that the linear ordering between the daughters of $\text{Clause}_{\text{MIN}}$ is in principle free (cf. Dalrymple et al. 2019: 144–145).[25] Thus, the c-structure rule in (41) licenses both the structure in (42) and the structure in (43), with alternate orderings of OBJ and OBJ_θ.

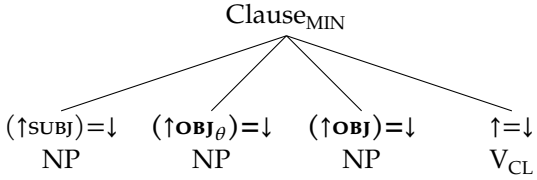
(41)

$$\text{Clause}_{\text{MIN}} \longrightarrow \underset{(\uparrow\text{SUBJ})=\downarrow}{\text{NP}}\ ,\ \underset{(\uparrow\text{OBJ})=\downarrow}{\text{NP}}\ ,\ \underset{(\uparrow\text{OBJ}_\theta)=\downarrow}{\text{NP}}\ ,\ \underset{\uparrow=\downarrow}{\text{V}_{\text{CL}}}\ \ldots$$

(42)



(43)



25 For ease of exposition, we omit adjuncts and other potential grammatical functions which can occur within $\text{Clause}_{\text{MIN}}$ from the rule in (41).

On this assumption, ditransitive constructions with Beneficiary>Theme (i.e. OBJ$_\theta$>OBJ) order and those with Theme>Beneficiary (i.e. OBJ>OBJ$_\theta$) order, will have identical a-structures and f-structures, as well as the same a-structure to f-structure mappings, but will differ in the mapping between c-structure and f-structure with respect to OBJ and OBJ$_\theta$, cf. Figure 8.

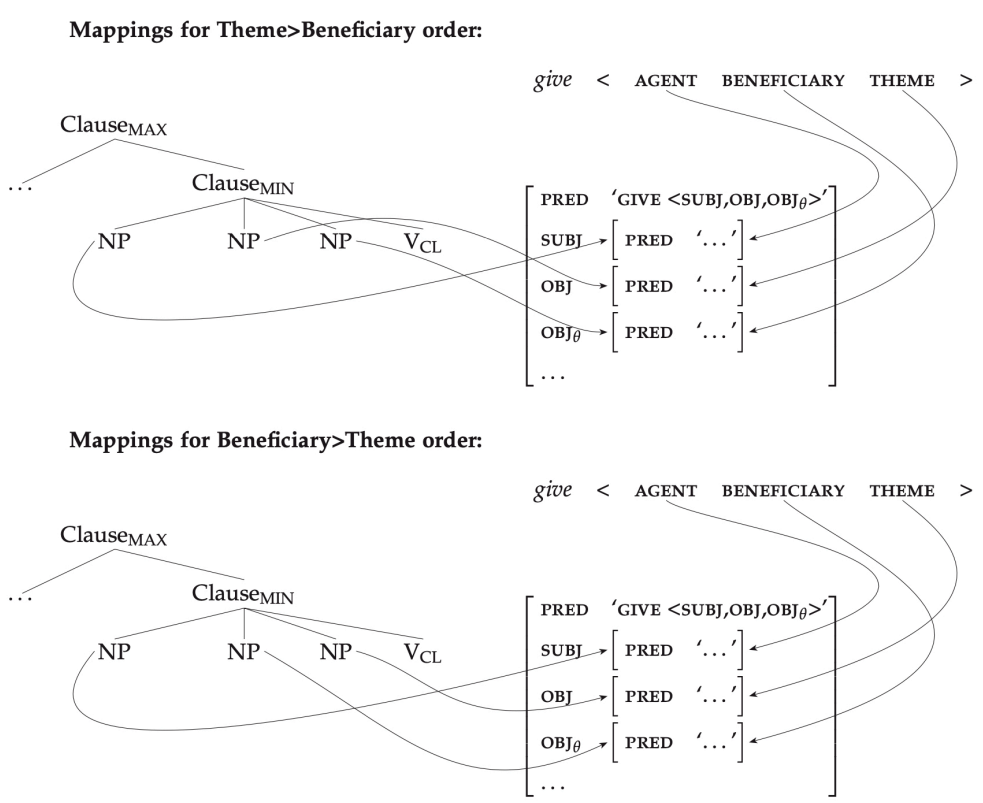


Figure 8 Mapping correspondences between c-structure, f-structure, and a-structure for arguments in Middle Low German ditransitives

At the same time, however, MLG also exhibits diachronic change whereby Beneficiary>Theme (i.e. OBJ$_\theta$>OBJ) order is gradually becoming dominant, in line with the ongoing erosion of case morphology and resulting increase in accusative/dative case syncretism (e.g. Lasch 1914, Shrier 1965, Härd 2000, Askedal 2005), which continues in later periods of Low German post-1650 (cf. Rauth 2020). Various approaches within LFG have been developed to address gradual morphosyntactic change which proceeds via competition (for a recent overview see Booth & Butt Forthcoming). One such approach is that developed by Clark (2004), who models gradual change in word order in the

history of English in terms of stochastic O(ptimality)T(heoretic)-LFG. In the model, change essentially proceeds via competing variants (cf. Kroch 1989, Pintzuk 2003), which are taken to be the result of constraints which themselves undergo gradual changes in relative strength.

Following this idea, one can model the change in Middle Low German in terms of gradual changes in the relative strength of constraints which result in competition between two competing c-structure rules, one where the order of OBJ and OBJ_θ is in principle free, as in (41) above, repeated here as (44), and one where the order is fixed cf. (45).

(44)

$$\text{Clause}_{\text{MIN}} \longrightarrow \underset{(\uparrow\text{SUBJ})=\downarrow}{\text{NP}}\ ,\ \underset{(\uparrow\text{OBJ})=\downarrow}{\text{NP}}\ ,\ \underset{(\uparrow\text{OBJ}_\theta)=\downarrow}{\text{NP}}\ ,\ \underset{\uparrow=\downarrow}{\text{V}_{\text{CL}}}\ \ldots$$

(45)

$$\text{Clause}_{\text{MIN}} \longrightarrow \underset{(\uparrow\text{SUBJ})=\downarrow}{\text{NP}}\ \underset{(\uparrow\text{OBJ}_\theta)=\downarrow}{\text{NP}}\ \underset{(\uparrow\text{OBJ})=\downarrow}{\text{NP}}\ \underset{\uparrow=\downarrow}{\text{V}_{\text{CL}}}\ \ldots$$

On this view, the variation in object order exhibited in Middle Low German, and the increasing dominance of Beneficiary>Theme (i.e. OBJ_θ>OBJ) order, is the result of competition between the two c-structure rules in (44) and (45), where (45) represents the innovative rule which is on the rise, driven partially by the loss of case and partially by an increasing preference for orders which reflect the Thematic Hierarchy in (23) (cf. Primus 1998: 1998 and Zifonun, Hoffmann, Strecker & Ballweg 1997: 1300–1301 on modern Standard German).

7 Conclusion

In this paper, we have explored the complex notion of "basic" word order and its understanding across different approaches to language via a case study of object order in Middle Low German ditransitives. We showed that the evidence on which previous claims of Accusative>Dative (i.e. Theme>Beneficiary) order as the "basic" order have been made is in fact a product of crosslinguistically common mapping relations between case, thematic roles, animacy and definiteness and, as such, does not make for suitable evidence to argue for or against purely syntactic claims. Rather, the picture given by previous studies as well as our own CHLG data is of a stage where there is considerable flexibility in object order, but where Beneficiary>Theme order is overall dominant and increasing in dominance over time.

Overall, our data show the importance of taking into account the interactions between syntax and other non-syntactic dimensions (morphology/argument-structure/semantics/pragmatics), thus making a strong case for a modular approach to grammar, such as that taken within Lexical Functional

Grammar. As we showed, due to the separation of position and function inherent in the design of LFG's parallel architecture, such an approach leaves the door open for languages where no *syntactically* "basic" order can be easily stated, and also for languages to subtly and gradually change from having a more pragmatically driven word order to a more syntactically driven word order over time.

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